"Horse Sense"

By J. C. Curryer M.D.

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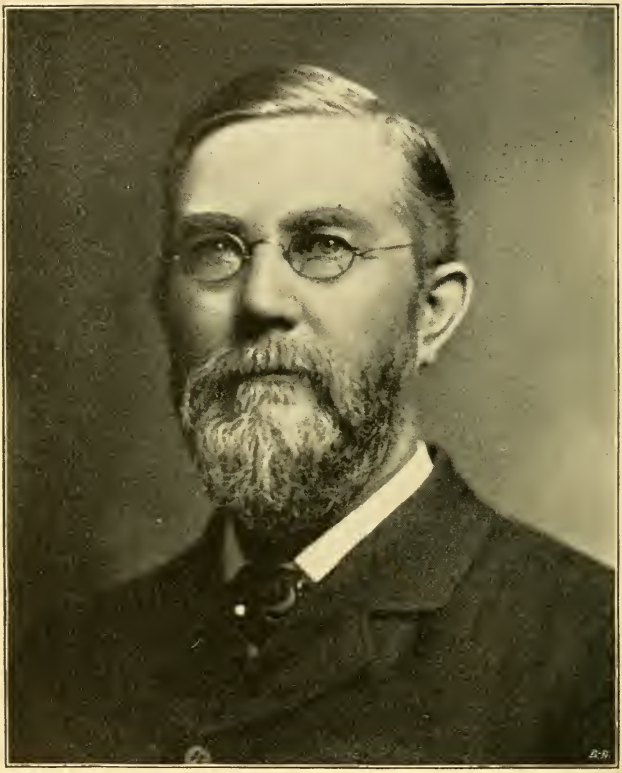

Cordially Yours
J. C. Curryer

HORSE SENSE.

A PRACTICAL TREATISE

—ON—

HORSE BREEDING—SELECTION OF STALLIONS AND BROOD MARES—CARE AND HANDLING OF STALLIONS—CARE OF BROOD MARES—DIFFERENT TYPES OF HORSES AND THEIR USES—PROPER ROAD TO IMPROVEMENT—GOVERNMENT OWNERSHIP OF STALLIONS—CARE AND FEEDING OF HORSES TO KEEP THEM WELL—NATURAL LAWS GOVERNING THE ACTION OF THE HORSE—EARLY EDUCATION—CORRECTING BAD HABITS—GOOD AND BAD SHOEING—MISCELLANEOUS RECIPES—VETERINARY QUESTIONS AND ANSWERS.
ETC., ETC., ETC.

BY J. C. CURRYER, M. D.

Founder of the "Minnesota Horseman"; Author of the "Stallion Register"; Assistant Superintendent of Minnesota Farmer's Institutes; Member of the Minnesota State Board of Agriculture; Superintendent of the Horse Department of the Minnesota State Fair, Etc.

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ODE TO THE HORSE.

"Who does not love a noble horse,
So trusty and so kind?
He serves his master part in fear
And love and faith combined.

He is not only man's best friend,
But man's best servant, too:
Whether treated good, or treated ill,
He is faithful, kind and true.

He plows the ground and plants the grain,
He reaps and rakes and mows;
And draws the heavy harvest wain
From morn till evening's close.

He treads the course with lightning speed,
Though often much abused;
And strains each nerve with powerful will,
That man may be amused.

Then let the hand that guides the rein
Be ever kind and true;
For the horse is God's creation, just
As much as I or you."

—Mrs. S. E. Curryer, wife of the author.

PREFACE.

It is now quite a number of years since my friend, Mr. Woodworth, made a suggestion that I have since tried to follow. He said to me (after seeing the manner in which I handled a wild and nervous horse): "if you will note down from day to day what your experience justifies, in a few years you will be able to give us a book on the horse that will be just what we need." I hope this friend is still living, and if he will write me his criticism of the work, it will be taken as a special favor.

This book has been written at the suggestion of many strong personal friends, and at the earnest solicitation of hundreds of others by letter.

It must be borne in mind that the work has been done at odd moments and after the manner suggested above, consequently some may criticise it for the many repetitions or too much stress being laid on principles, natural laws and unerring methods, but it is the author's firm conviction that these very things will serve as monuments to his memory, with those who will read the book and comply with its suggestions.

For the want of a better name (at the suggestion of a personal friend), it is christened HORSE SENSE, and it is the most sincere desire of the author that the work or book fully justifies so good a name.

The questions and answers in the veterinary department are designed to meet the wants of many who are not favored with having the veterinary surgeon at easy call, but it should be understood that where competent veterinary skill can be had, the seriously sick horse should be in his hands.

A grateful acknowledgement is hereby offered to those who have assisted, encouraged and sustained the author in what they are pleased to call a commendable labor for mankind, our horses and the country generally.

J. C. CURRYER.

AUTOBIOGRAPHY.

It was not my good fortune to have been born in a palace, nor with a "gold spoon in my mouth," but in a humble log cabin on a farm in the forest, one mile south of Palestine, Shelby county, Ohio, November 7th, 1837. My baby cradle was a sugar (sap) trough, and my advantages were such as nature furnishes in the timber. School sessions were of short duration and the teachers of the "beach-gad" order. My parental grand parents emigrated from near White Hall, Baltimore county, Maryland, about 1810, to Ohio, and my maternal grand parents came from Vermont. My association with and attachment for the horse, began very early in life. Father being a stock dealer in horses, cattle, sheep and hogs, I frequently accompanied him in gathering and taking his purchases to market.

I remained upon the farm until twenty-five years of age, when I studied medicine and dentistry and practiced the latter for nearly a quarter of a century, but during all the time, was never without from one, to over one hundred head of horses. With the exception of about five years of all time, I have been closely connected with the farm, in breeding horses, cattle and hogs, but principally the first, as my interest naturally centered on the horse.

During 1887 I was prevailed upon to aid in the establishment of Minnesota Farmers' Institutes, with which I have been connected ever since. My first work in this respect was in representing the horse interests on the institute platform, in relation to breeding and educating the horse. And as our work was new to the people, more or less prejudice existed against it. I volunteerd to handle any unbroken horse during the noon hour to show the intelligence of the horse and how much could be taught him in one hour. Out of one hundred and fifty-three horses handled in this way, but one was made warm enough to sweat. The streets during these exhibitions were generally crowded with the people of the town and country to see what they pleased to term "the fun," but they were often disappointed in this respect, as it was the invariable rule to first gain the confidence of the horse, and the balance was so easy that there was but little or no excitement about it.

Much of my life has been spent in studying breeding questions and the means, and especially the methods of controling our horses in accordance with the natural laws governing their actions, with a view of aiding owners and handlers in getting along with their horses with the least trouble and punishment, as well as to relieve the faithful horse of much suffering from abuse.

INTRODUCTION.

Horse Sense is the result of nearly a lifetime's association with the horse, in observing his character, the laws of reproduction, adaptation of his conformation and nerve force for the varied uses required and the natural laws that govern all his actions.

The character of horses, like that of men, is as varied as ancestral endowment and environment can make their impressions on the organization. That the horse is an intelligent animal there can certainly be no doubt in the present development and training of the animal. That he is also endowed with propensities (if not sentiments) very similar to those of man, there is ample proof sufficient to satisfy the most incredulous. The evolution of the horse demonstrates that by a strict conformity to the laws of reproduction—"like begetting like or the likeness of some ancestor"—that we are able to produce the varied types of horses for the specific uses for which each is by nature best adapted.

While the character and breeding of horses is of great importance, that of a useful education is of equal, if not more, value. Has it ever occurred to the reader that every duty, service, performance and requirement of the horse for our benefit, is the result of his education? Like his owner or handler, he must first be shown, taught, and have explained in an intelligent manner, how to perform the required duties, before he can reasonably be expected to execute them well. He must not only be taught what to do, but how to do it, and we all know from personal experience, that we often have to practice a long time after we know what to do, before we can perform the duty well. Then, should we not have great patience with the horse in his education. When we stop to consider that the horse is a mute (not able to talk), and that his services require intelligence and education to be able to do them well, does not the situation in its broad sense appeal to the sympathy and superior ability of man, to educate this most valuable servant of humanity in the best possible manner?

Horse Sense is intended to appeal to the good "common sense" of men in all they have to do with horses, and especially in relation to the "natural laws" which govern all the actions of horses. Unless we comprehend these laws and comply with them, we will make a dismal failure of handling horses. Kindness, patience, perseverance, consistency of method, practical application of means of control, and a close observance of the nature of the horse to be dealt with, will produce surprising results. But if we opperate in opposition to these natural laws and we

consider the horse only a "brute" to be yanked, kicked and beaten, at the pleasure or passion of the handler, the good "common sense" of any man would naturally decide that the results would be equally surprising in an opposite direction, viz.: that an unreliable, dangerous and possibly viscious animal was made so by his trainer, instead of a good, serviceable, trusty, faithful and reliable horse. One of two things should be done for the good of our horses. They should be taught in established schools for their education, as we have for our children's training, or everybody who expects to handle horses should study the horse; study his character; study the natural laws that govern his actions; work in conformity with these laws instead of against them, as when we put a halter on a colt's head and then expect to pull him after us without resistance. Everyone who ever "broke" a colt to the halter knows what the colt will do if the halter is pulled upon. He knows he will go backwards, but how many men ever stopped and candidly considered what made him pull backwards? The colt thinks he has got his head into some kind of a trap and he knows but one way out of it, and that is to go backwards and pull it out. This lesson alone should be sufficient to demonstrate to us that we were working at the wrong end of the colt—in part at least—for we find when we attach something to the rear end of his body, he as naturally goes forward. Then is it not good "common sense" as well as Horse Sense, to operate on the rear end for forward movements and use the halter for direction? The pivotal point of the horse's action is the center of his body in opposite direction, and the sooner we learn this and always keep it in mind, the better we will get along with our horses.

My attention to the capabilities of the horse in an educational way, was when only a lad of ten years, with a strawberry roan mare that I used for driving the cows to and from pasture. The mare soon demonstrated that she had an interest in driving these cattle, as she seemed to watch their movements very closely and was on the alert for any "breaks" that any of them might make. She would stand and hold the cattle while the bars were being let down, and if any one of them offered to move out of the way she was right after them. She was always rewarded for her services with sugar, which she soon learned to relish. She would sidle up to the fence for me to mount upon her bare back, and she soon learned to stand with her front feet upon the largest boulders to be found, and some were very large along the route.

When about thirteen years of age I accidentally discovered what has since proved to my entire satisfaction, the natural laws governing the actions of our horses, and it is surprising that it has not been well established long ago, when the facts are so apparent to every handler and trainer, that the horse always acts just the reverse from what is generally expected, and, notwithstanding this, almost all horsemen still persist in working along the same old lines, in opposition to this natural law and then wonder why horses do as they do.

I have worked many years in farmers' institutes along this line, and from the many kind greetings and the hundreds of letters received com-

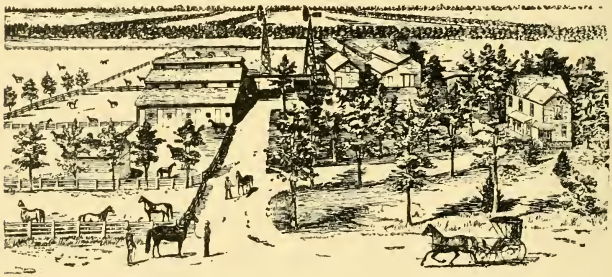
mending my efforts and constantly urging me to compile my work of the Minnesota Horseman, Farmers' institute annuals and such other matter as would make a ready reference book, is what has stimulated me in the preparation of Horse Sense, with the sincere hope that those who will study its pages carefully and comply with the "law," will be benefited many times its cost.

The indulgence of the reader is solicited for the many repetitions, crudeness of style, plain, simple, method and idiosyncrasy of the author, as no attempt is made towards a scientific classical or professional production, but a work of preventions rather than cures, that can be made beneficial to the farmers (who raise the horses) and those who handle horses, and especially for the comfort that may be rendered the noble horse by better understanding him, and thereby giving better treatment to man's greatest animal servant—the horse.

J. C. CURRYER.

FORMER HORSE-BREEDING ESTABLISHMENT OF DR. J. C. CURRYER & SONS, 3½ MILES SOUTHEAST OF LAKE CRYSTAL, MINN.

This beautiful location was selected many years ago by the author and his devoted wife, as a fitting place for the enjoyment of farm life, the proper environments for bringing up a family of boys, and devoting our future years to stock raising. Groves were planted, many wells for stock-water sunk, buildings erected, paddocks and pastures arranged, and the growth and development of the trees and stock were greatly enjoyed up to the financial panic of 1893, when the horse business came to a "stand still"—the very "bottom" of the enterprise "fell out," a disastrous business-house fire, and other embarrassments, put a sudden check to many of our cherished ambitions. But while the depreciation



MINNESOTA'S (PAST) HOME OF THE WILKES,

in values were great, the losses heavy, the disappointment a severe blow, fondest hopes almost faded, nothing apparently "coming our way" for a long time, yet at last a "bright star" of hope is now seen farther northward, and we have secured what will serve our purpose better, where the grasses grow more luxuriantly, running water and plenty of it, timber for buildings and fencing on the place, and located just half way between the two great cities of the northwest, with the advantage of two railroads.

The illustration gives the reader a good idea of the cherished old farm, its groves, fields, buildings, wind-mills and stock, where we so often greeted our friends and greatly enjoyed life. But it is still our sincere desire and cherished hope that we may in the future as in the past, welcome our friends to our new location (near Hinckley, Minn.), our fireside and farm table.

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CHAPTER I.

SCIENTIFIC BREEDING.

Science involves methods of acquiring knowledge; methods of organizing knowledge acquired with experience. Methods demonstrate the digested experience of men and result in what is known as "common sense." the accumulation of which can properly be called knowledge arranged in order-science.

Common-sense breeding is as nearly applied science as we can define the subject. Webster says, applied science is a knowledge of the facts or phenomena as produced by means of causes or laws. The laws of generation, in the very nature of things, are not, and can never be, reduced to a mathematical science. Scientific breeding, therefore, is simply keeping within the lines possessing the strongest demonstrated inheritance of all the qualities desired in the offspring, and when we come to understand the matter, there will be nothing regarded as mysterious about scientific breeding. It is common-sense breeding, or the production of what is wanted from animals possessing the desired characteristics for many generations back with the least variation.

SPECIAL LINE BREEDING FOR UNIFORMITY OF CONFORMATION.

Two hundred and fifty years' breeding (never out-crossing) from the survival of the fittest in the running-horse line, has demonstrated that we have attained the greatest degree of perfection that the world has ever known, both in quality of animals and production of speed; and when we consider the development of the American trotter and pacer, and the close application of that great natural law of "like producing like," our production of performers is simply an astonishment to all other countries—and all this has been accomplished practically within the past quarter of a century. But if the question is asked, what particular horse was able to transmit this wonderful inheritance? no one is to be found who is able to answer satisfactorily. Yet the accumulative force along the same line increases in its onward course, as the little brook in its wanderings towards the mighty ocean becomes a great river. To make further improvement in size, style, action, color, or any other desirable quality, the same rules and common sense must be complied with, within the type, line of performance, or breed. Crossing any of the different types or breeds with a view of scientific improvement is tampering with uncertainties, and should be characterized as at-

tempted science without sense, logic without reason; a move backwards, instead of forwards; a tearing down of the work of improvement that those before have labored for generations to establish. Very serious, if not irreparable, damage is often done by one injudicious out-cross. Then how important it is that we should have some systematic way of investigating all of our breeding problems.

STATE OR GOVERNMENT LAWS CONTROLLING SERVICE STALLIONS.

If the principles of common-sense breeding cannot be maintained by mutual consent, through a state breeders' association, or other societies, then we should have an enactment of law that will prohibit the us of any but the best of sires for public service. The public demands horses of size, style, substance, action, symmetry of conformation, with as nearly perfect feet and legs as possible, and how are we to comply with this demand unless we make a strenuous effort to breed what is wanted? To do this, no unsound, blemished, ill-shaped, irregular-gaited or bad-dispositioned stallion should be permitted public service. We have enough good sires and dams to make a great showing, if they were selected and brought together in their proper relation; but so long as the force of this matter is not fully considered, the crossroads, nondescript stallion will be used, and the country, as well as the individual, must suffer the irremediable consequence.

NATURE'S LAW OF "LIKE PRODUCING LIKE," THE TRUE PRINCIPLE.

That fundamental natural law of "like begetting like, or the likeness of some ancestor," must never be lost sight of in any of the lines of breeding. The most common error committed is, that the remote ancestral inheritance is lost sight of by most breeders; they confine themselves to an examination of the immediate ancestors only, when an acquaintance with the remote progenitors is of much greater importance in what they are trying to accomplish.

If the progeny would always take after the immediate parents, then the question of breeding would be easy, and almost anyone could make progress. But when we see the produce taking back after some remote ancestor possessing undesirable qualities, then it is that we often hesitate, and even doubt our own observations.

HORSE-BREEDERS MUST HAVE A DEFINITE OBJECT IN VIEW.

Breeders to be very successful must know positively all about the breeding animals that they are using, and to do this successfully they must be familiar with the records and performance of these animals. Many a breeder, from neglect to register his animals, has lost untold advantages to himself and others who would like to use his breeding stock. The registry is the only safe means of perpetuating the good qualities of the breeds, and is the only safe guide to purchasers in tracing the antecedents of their own or others' animals; and until we direct our

attention to this, as well as to the merits of the individual, we will be making but little headway in improving any of our breeding stock.

"Biology treats of living matter, and the study of living tissue. It has to do with the origin, structure, development, function and distribution of animals—the science of life in its widest acceptation—scientific inquiries into the first origin of life and the changes it has undergone from the earliest traceable period until now;" consequently the importance of the breeder knowing just what he is doing.

AN IDEAL PRODUCTION SHOULD BE KEPT IN MIND.

The breeder should have a definite object in view. He should have an ideal production in his mind, and every move he makes should conform to that object and the law of reproduction. To breed horses successfully, we must bring applied science (common sense) to our aid and direction. When the laws of horse breeding are fully understood, we will have fewer "offs" than we now have perfections; it will be just as easy to distinguish the different breeds of horses as it is now the several types of cattle—as the Shorthorn, Devon, Holstein or Jersey.

MENTAL AS WELL AS PHYSICAL CHARACTERISTICS MUST BE MAINTAINED.

There is this difference between horse and cattle breeding: The horse, in addition to his physical constitution, has a mental organization that must be studied and maintained in relation to his education and duties. It is much easier to improve the bodily defects than those of the mental characteristics.

The foundation rock upon which to build a permanent improvement in horse breeding must be based on soundness in all breeding animals, both near and remote, for the strong reason, that all defects or unsoundness are just as transmissible as the meritorious qualities.

DEFECTS AND WEAKNESS ARE TRANSMITTED TO THE OFFSPRING.

At breeding time the sire and dam should be most scrutinizingly examined for defects, conformation, size, style, color, gait, coat, skin, mane and tail, character of feet and legs, muscular power, digestive capacity, stamina and intelligence. Each and every part should be carefully weighed, and if not found to be well adapted to each other, then look further for breeders, as it will not pay to produce undesirable, unsalable, good-for-nothing animals. The weak places or parts should be strengthened, rather than to try to make the strong ones stronger. Weakness of a similar character in both sire and dam is almost sure to be still weaker in the offspring.

SELECT A SPECIAL TYPE AND STAY WITH THAT TYPE.

Now, to sum the whole matter up in a "nutshell:" Select the type of horses desired, and then choose the strongest of the type, all things considered, and confine your operations to the type decided on. If it is runners, take the best of the thoroughbreds, and stay by them. If

it is trotters and pacers, there are plenty to make selections from, and stay there. If it is draft horses of any of the established breeds, you can make good and careful selections out of them, and confine your breeding to that class. If your choice happens to be with the coachers, you can possibly find those that will fill the bill, and reproduce themselves; but this last is the hardest to maintain, as the fashions are constantly changing with the fastidious people who are the buyers. Saddle horses will in time become a luxury, and they will not be hard to find, as they are well established in their gaits, and breed with great uniformity; but they, too, must be kept within their line and breeding, for improvement.

HORSE BREEDING SHOULD INTEREST EVERYBODY.

Reader, will you kindly consider this breeding subject in its true light, and from now on give it the attention that it justly deserves, for the interest you have in it, the interest your neighbor has in it, the interest your country has in horse improvement, and also the great advantages that will accrue to the country if we can attract foreign buyers.

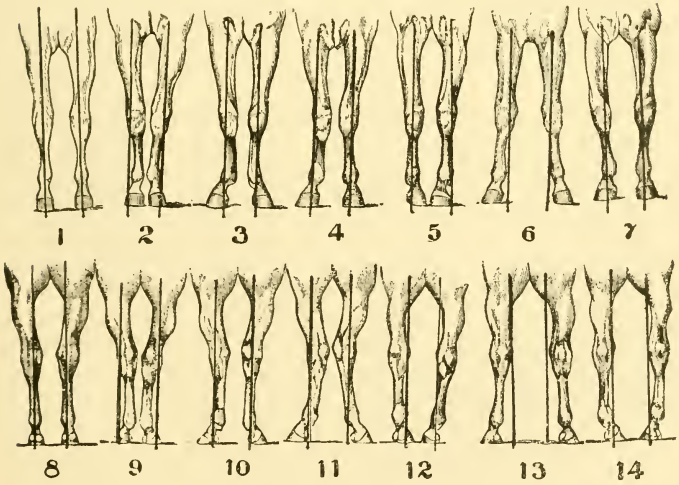
WAKE UP.

"Wake up, you dormant breeders,
Who've been sleeping for past years,
Strike out anew—the night has passed—
The morning light appears.
The times have changed; cash buyers now
Are scouring east and west,
Ready to lay their ducats down
For horses of the best.
The horse with size and action,
Well formed, with color right,
Is hard to find, but when he's found
The price they will not fight.
The scarcity of horses soon
Will open up your eyes;
The prices that the fine ones bring
Will fill you with surprise.
There's money in horse-breeding now;
By the time your colt is five
You'll find he's 'lasses in the jug,
And honey in the hive."

CHAPTER II.

RIGHT AND WRONG CONFORMATION OF THE HORSE'S LEGS.

The feet and legs of the horse hold about the same relation to his general usefulness that the "running gear" does to the wagon. If the axles are sprung, the wheels dished, and one wheel does not follow another (don't track, as it were), the wagon will run heavy, is not strong, and is really a failure for the purposes intended; and it is just about the same with a horse that has deformed legs, or if they are hung to the body in a twisted condition. He will move awkwardly; he is always interfering, or is not strong and durable. The illustrations represent the different conditions better than we can describe them in cut No. 1. Numbers 1 and 8 show how the front and hind legs should be attached to the body.



Cut No. 1.

SIMILAR DEFORMITIES OF BOTH FRONT AND HIND LEGS.

Numbers 2 and 9 show the knees, hocks and ankles too close together. Numbers 3 and 10 show the legs nearer in line, but twisted,—toeing out behind and in front. Numbers 6 and 13 show that the feet are too wide apart, and the horse, of necessity, must be a sprawling mover. In numbers 7 and 14 the knees and hocks are bent outwardly and the feet inward. All these conditions, except numbers 1 and 8, are to be avoided where improvement in breeding is aimed at, and the less of any of these deviations from the right and true formation the better for usefulness of the animal.

In other words, any deviation from the best form is to be regarded with suspicion, and, to be fully comprehended, the following illustrations will serve as object lessons, in the comparison of mares and stallions, with a view of mating for improvement.

THE FEET AND LEGS OF THE HORSE CONSTITUTE THE RUNNING GEAR.

As the feet and legs of our horses constitute their "running gear," their means of locomotion, we will first take a look at the front legs, in which cut No. 2 shows five sets of legs; only one set of which should be regarded as of good form.

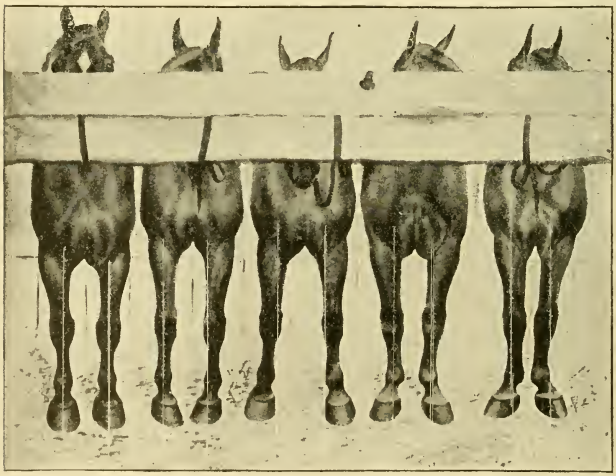


Fig. 1. Fig. 2. Fig. 3. Fig. 4. Fig. 5.

Cut No. 2.

LEGS OF HORSES SHOWING RIGHT AND WRONG.

Fig. 1 (one the left side) drop true from the body, knees and toes

square to the front, and about the same distance apart on the inside, at the arms and at the ankles.

Fig 2 is where the toes turn in, which generally produces an awkward movement and inclination to "forge" or strike the hind shoes against the front feet or shoes in trotting.

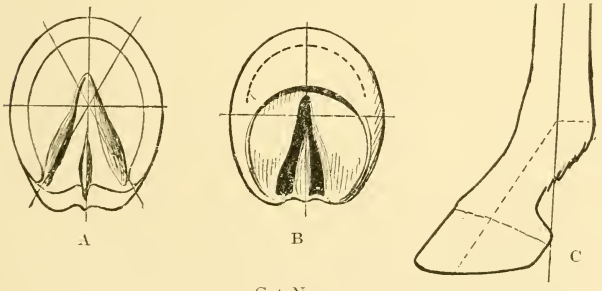
Fig 3 shows the feet wide apart, which, also, makes an awkward mover, and a like disposition to "forge" and also to "stumble."

Fig. 4 represents the toes turning out, the twist in the leg being at the knee. This is a bad conformation in movement, and the liability to interfere at the ankles.

Fig. 5 shows a like deformity to that of Fig 4, only worse, as the twist is at the elbow instead of at the knee, and when the legs are close together (and they generally are), the ankles, tendons and knees suffer from interference, and can only be remedied by "boots." Many of our speedy trotting and pacing horses "toe out," and as a consequence, we see them "booted" from hoof to elbow for protection.

BE SURE OF SPRINGY PASTERNS, WHEN EITHER LONG OR SHORT.

The front legs should stand well under the horse, from both a side and front view, and there should be a nice, easy spring at the "pastern." Straight "pasterns" (from a side view) are objectionable on account of the jar to the supporting column of bones. The illustration, Cut No. 3, shows the side view with a line running in the center of the fore leg to the ground just at the heel. The dotted line running through the center of the foot and pastern, gives about the proper angle for sufficient spring in the pastern to save the jars to the column of bones. It had better be more rather than less springy.



Cut No. 3.

A—OUTSIDE OF SOLE AND FROG. B—INSIDE OF SOLE AND FROG. C—PROPER ANGLE OF PASTERN AT SIDE VIEW.

Illustration A, cut No. 3, shows the outer sole and frog, width of the foot and general appearance when fitted with a plain shoe.

Illustration B, gives a very good idea of the appearance of the inside of the horny wall, floor or sensitive sole and frog.

C, shows a side view of the foot, pastern, ankle and cannon. The perpendicular line through the middle of the cannon or front leg, shows where it should come in contact with the ground for the best results. The dotted line shows that the angle of the foot and pastern are about the same—50 degrees.

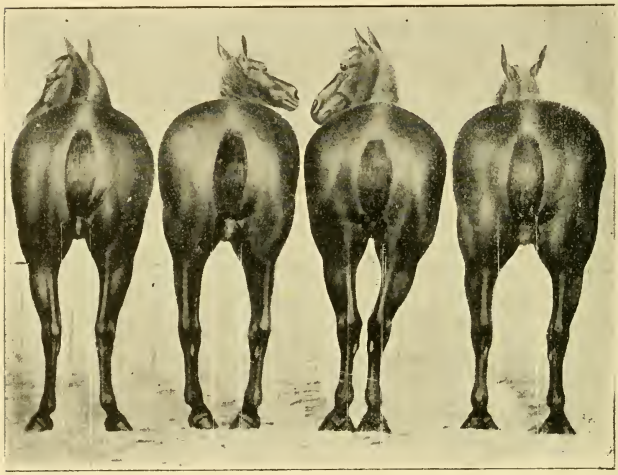


Fig. 6. Fig. 7. Fig. 8. Fig. 9.

Cut No. 4.

REAR VIEW OF THE HIND LEGS AND FEET.

Cut 4 shows four sets of hind legs from the rear view, none of which could be properly termed perfect.

Fig. 6 shows the toes turned outward, which indicates not only a weakness, but the action cannot be smooth and easy. Fig. 7 is a case where the toes are turned inward, which also makes an awkward moving animal, with a tendency to "forge," (except the body of the horse is very long). Fig. 8 shows the hind legs too close together, which gives a tendency to "interfere" at the ankles, as also to "forge." Fig. 9 is a case where the hind feet are too far apart, which not only makes an awkward mover, but the tendency is to work the back too much in traveling, and consequently the animal soon gets tired.

Cut 5 shows four sets of hind legs from a side view, none of which we would call perfect.

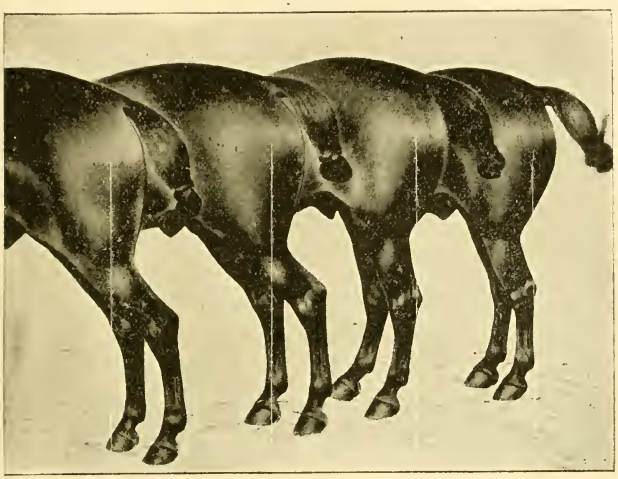


Fig. 10. Fig. 11. Fig. 12. Fig. 13.

Cut No. 5.

SIDE VIEW OF THE HIND QUARTERS AND HIND LEGS.

Fig. 10 shows an unbalanced conformation; the legs are too far back of the body, which makes an extra strain on the back, and the hind legs are dragged after the horse, rather than serving as propellers. Fig. 11 is nearly as bad a conformation as the former (Fig. 10), and stands too straight on his pasterns. He will not drag his hind legs quite as much as the other, but he will almost drive his hind feet into the ground in trotting, which gives a terrible jar to the bones of the legs. Fig. 12 is a case where the legs are well under the body, but so straight throughout that the movement can neither be easy or springy. Fig 13 is the best poise of the hind legs for the support of the body, but they are also too straight to wear well or glide over the surface smoothly. The pasterns in all, are too straight even if the legs were properly joined to the body.

CHAPTER III.

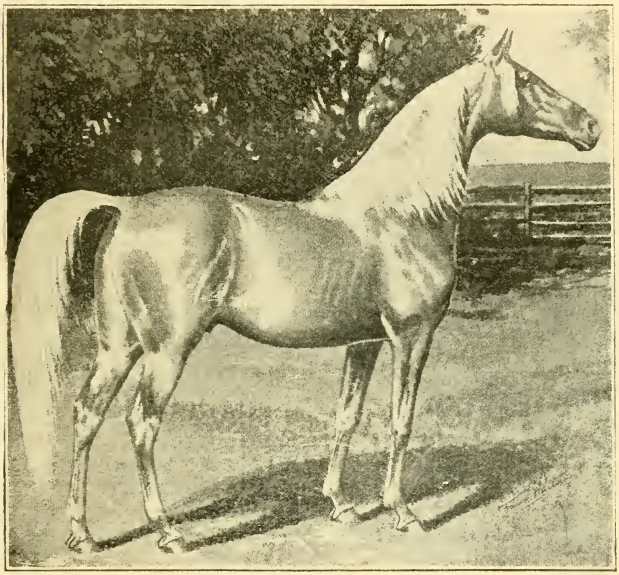
DIFFERENT TYPES OF HORSES AND THEIR GENERAL CHARACTER.

In treating of the different types of horses here, it must be borne in mind that only a passing notice can be given, but enough to give the reader a definite idea that there is a great difference and that each have their place for the duties required. We must select the type best suited for the work to be performed with the least wear and tear on the constitution of the animal, and as our very best and greatest improvements in the equine race started with the horses of the desert—the Arabian, it is only justice to this noble animal, that we begin here.

THE ARABIANS HAVE QUALITY, INTELLIGENCE, ACTIVITY AND ENDURANCE.

The foot of the Arab horse is round and large, with a hard, tough wall. The bones of the pastern-joint are fine, oblique and springy. The cannon-bones are short and fine in proportion to the back sinews, but have never been known to break down. The knees and hocks are broad, clean cut and very strong. The shoulders are well clothed with muscle, but the hind quarters are much narrower than in our horses. The line of the hind quarter is finer, action freer and the upper thigh longer than the English thoroughbred. In body the Arab is much like the thoroughbred (the source of the latter) except shorter in the back and possibly higher at the croup, the tail coming out high up. The barrel is round, deep at the girth, with shoulders as good as any horse, and forearms standing out with unusual prominence. The head of the Arabian horse looks larger than that of the thoroughbred, chiefly on account of the depth and spread of the jowl-width between the jaw bones, giving plenty of room for the windpipe and an easy poise and freedom of motion to the head. The forehead is prominent, the muzzle fine and eyes large, and very mild in expression. The ears are fine and beautifully shaped, though not what would be called small. The neck of the Arab is light and fine, with the head attached at a different angle from the thoroughbred. The style of the Arab horse is something very striking, with head and tail carried with such grace and character that must be seen to be appreciated. The pure bred Arabian is a low, easy gaited horse, and is good at the walk, trot or gallop, but the trot is but little indulged in with the Arab. In disposition, the Arabian horses are gentle and affectionate—familiar to almost the degree of being

troublesome. They have no fear of man whatever, for they do not understand that they are to be hurt. This extreme gentleness and courage is inherited, and the young colt never thinks of getting on the other side of its dam for protection, as ours often do.



Cut No. 6.
A TYPICAL ARABIAN.

This fine illustration of a typical Arabian horse gives a good idea of what fine quality this race of horses possess. No wonder there is so much said about reinforcing the blood of our horses by a return to the Arab, and we can here readily see why all breeders are so proud to be able to trace the lineage of their horses to that of the Arabian-Breeders of all classes of horses strive to trace theirs back to this noble race.

The Arabian horse in his native country, is never viscious, shies or shows signs of fear, nor wince at fire arms. In these respects they are very different from other horses. The colts are handled by the children and played with from birth. They are ridden by the boys of light weight at one year old, and this assists in making them very kind and gentle. The only objection that can possibly be brought against the Arabian horse is his size. He is small, but their strength and endurance is almost beyond comprehension, as they go surprisingly long distances under heavy weights without tiring. They may be ridden day

after day, with only grass for feed and yet they do not lose courage or condition, and are ready to gallop at the end of a long journey.

The Arabs never ride stallions when in war, as they are more apt to neigh and apprize the enemy of their location or presence.

The principle colors are bay, grey, chestnut, brown or black. Roan, piebald, duns, cream and calico are not to be found among the pure Arabians.

In conclusion, let it be fully understood that inch for inch, the Arabian horses are superior to any other type for the uses to which they are by nature adapted.

The description of the Arabian horses will apply well to that of the others to follow, with the exceptions of size and development for the duties to be performed. The Arabian standing at the head in intelligence, quality, endurance, courage and docility, he is naturally placed at the head of the list of types of horses.

Tradition states that Ishmael, the son of Abraham, who, when he was turned out of his father's tent, captured a mare that he found running wild and made her his companion, which gave him the honor of being the first tamer and trainer of horses.

Represented in cut No. 6, is a typical Arab horse, which the reader will do well to examine carefully and compare with the description.

GENERALS OF EUROPE FORMERLY RODE ARABIAN HORSES.

"In the wars of the first Napoleon, the French officers captured the most valiant of their battle steeds from the Arabs. Napoleon's most famous charger was a pure white, pure bred Arabian stallion. Marengo, the famous white horse that Napoleon rode at Waterloo, was a pure bred Arabian. This is the war horse that the great artist Vernet represents the great Corsican as riding, in his immortal painting of 'Napoleon Crossing the Alps.' But there are no more Marengoes in Arabia today. The race is fast dying out with the degeneracy of the Arabs.

ENGLISH THOROUGHBRED.

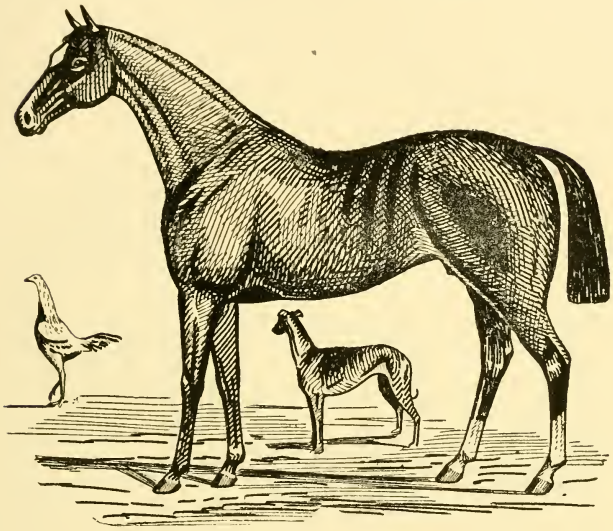
This type of horses has been bred for many, many generations for the specific purpose of running a given distance in the shortest possible time, and have never been outcrossed. They are bred from the survival of the fitest only, and whenever a reinforcement of the blood is required, the original Arabian or Barb sire is resorted to. The thoroughbred is never crossed with the Morgan, Hambletonian, Mambrino Chief, Hackney, French coach, or draft breeds with a thought of improving the speed of the runner.

FORM FOR A SPECIFIC PURPOSE.

Form for the purpose, together with nerve force and the actual performance at running, are the requisites of the breeder of thoroughbreds.

The illustration of "Imported Glencoe," the Greyhound dog, "Minneapolis," and the fighting cock, "Jack, the Ripper" (Cut No. 7), make

three of a kind—all gamesters built on a plan for active work, and the reader will note the similarity of form in horse and dog.



Cut No. 7.
"Imp. Glencoe," "Minneapolis," and rooster, "Jack, the Ripper."
THREE OF A KIND, ALL GAMESTERS.

Many of these horses have become noted on the turf as well as on the fields of battle.

WAR HORSES AND FAMOUS CHARGERS.

At the battle of Waterloo, the duke of Wellington rode that great thoroughbred horse, "Copenhagen," and Lord Cardigan, mounted on the chestnut thoroughbred, "Ronald," led the charge of the famous "600" at Balaklava. But where are the "Copenhagens" and "Ronalds" of today? Echo answers, all dead.

Gen. Grant's favorite horse, "Cincinnati," Gen. Lee's, "Telegraph," and the fated Gen. Custer's "Frog Town," all carried a large percentage of thoroughbred blood.

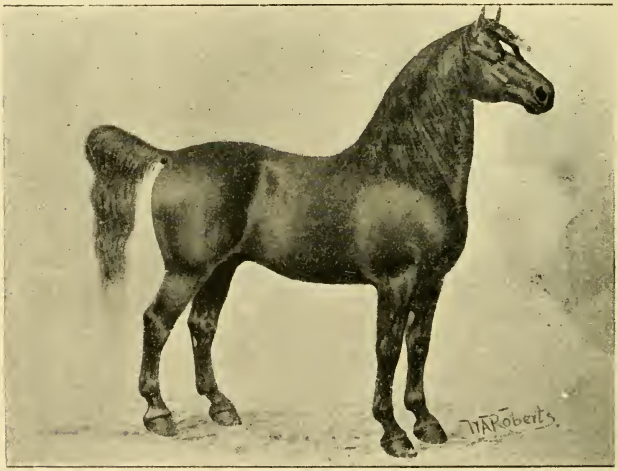
THE MORGAN TYPE OF HORSES POSSESSED MANY VALUABLE CHARACTERISTICS.

Morgan horses in the United States (their native home) for a long time in the history of the country, and especially in the New England states, stood out prominently as next to the Arabian horse in courage,

intelligence, style and endurance, but like the Arab horse, the greatest objection was his size.

POTENCY OF MORGAN BLOOD SHOWS MERIT IN BREEDING.

The prepotency of the Morgan blood, shows itself as prominently down through many generations of outcrossing as that of any other type of our horses. The characteristics of form, style, prompt action and endurance is still manifest more particularly in the admixture with the descendents of old Messenger, the remote fountain of the trotting horses of today. A combination of Hambletonian, 10, Mambrina Chief, 11, and almost any branch of the Morgan families, gives compactness of form, rapid action, level head, good finish and graceful carriage. By careful analysis of many of our best performers in harness races of today, will be found the combination above represented, added to this will be found the thoroughbred blood, of many different strains.



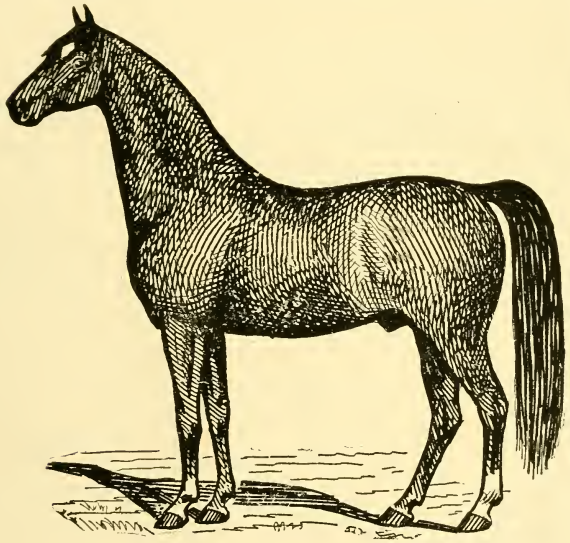
Cut No. 8.

GREEN MOUNTAIN MORGAN 2ND.

The illustration of the general appearance, compactness of form, style and conformation, etc., is best shown in cut No. 8, of Green Mountain Morgan, 2nd, of which this is said to be an excellent likeness, and was sired by Gifford Morgan, by Woodbury Morgan, by old Justin Morgan; dam by Woodbury Morgan, by old Justin Morgan. He was an inbred Morgan, and one of the handsomest of the race; foaled 1834, 14¾ hands high, and weighed 1,100 pounds.

IDEAL LIGHT HARNESS HORSE.

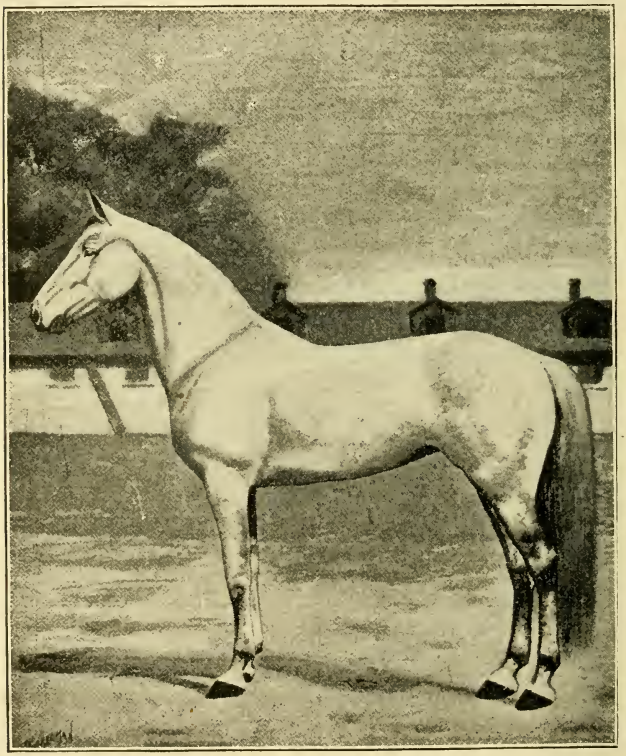
While the cut No. 8½ gives a good idea of the type, it does not do the individual justice. This house was owned by the author until more than twenty-five years old, and a more perfect or ideal form for the purpose, better, more intelligent and safer individual would be almost impossible to find. He is registered in Wallace's first volume of the American Trotting Register, under the name of Security, and he was rightly named. Like David Harum's horse, a "woman could drive him as well as a man." But unlike his horse, he never balked. The



Cut No. 8½.
SECURITY.
Beauty, quality and character combined.

wife of the author preferred to drive him to any other of fifty or more horses on the farm, as he was absolutely safe, day or night. He was all that could be desired in ideal form, road qualities and character; but he was not bred right to be able to perpetuate these very meritorious qualities. He was the result of two very different prepotent types of horses, and he had taken on the good qualities of both, but was unable to transmit to his progeny, what he himself had inherited. He was a cross of the Morgan and thoroughbred types and his colts were never equal to the sire. Out of fifty or more of our own raising,

scarcely any two were of the same type. One going towards the thoroughbred, and another to the Morgan, and so on, which made his work as a sire very unsatisfactory, and still he got many good horses, but of no specific type. He was greatly enjoyed by the family as a grand good horse, but a disappointment as a breeder.



Cut No. 9.

THE PURE-BRED ORLOFF TROTTING MARE BAJADERKA.

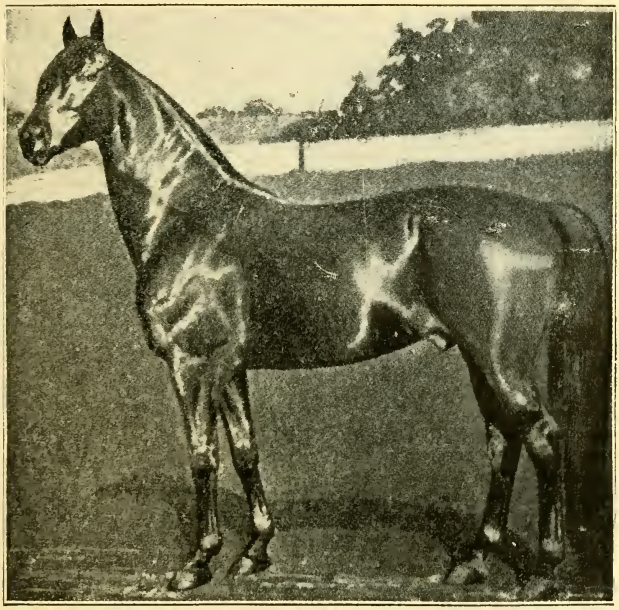
This fine specimen of the Orloff breed shows indications of the care in which the Russians have maintained the color and general type of the grey Arab while increasing the size. This class of horses is prized very highly in their native country, and many of them are great trotters.

THE RUSSIAN OR ORLOFF TYPE OF HORSES.

These elegant horses of Russia, are from carefully preserved descendents of the pure bred Arabian sires, taken to Russia for the improvement of their light carriage and saddle horses, and are worthy of notice here. They are much improved in size without losing much of the quality and beauty of the Arabian. For an object lesson, the reader is referred to cut No. 9. which speaks for itself better than words can describe.

NATURE'S LAW OF SELECTION VERIFIED.

Here is an illustration, cut No. 10, of what the American trotting family of horses should be brought to—horses of size, style, symetry, substance and action—and when they have the desired speed, they will bring all the money one has the conscience to ask. If they lack the speed, then we may have the grand carriage horses demanded in the markets at long prices. If they have neither the speed or fancy style, they will make excellent roadsters or splendid farm horses of the active type.



Cut No. 10.
CONQUERER STAR (2:23), BY NELSON (2:09).

If the American people had given the attention to this type of animals, rather than to speed without regard to type, then we would have today ideality in form, grandure in style, intelligence almost human, size to suit the varied tastes and poetry of motion. Cut No. 10 is a good representation of Conquerer Star, two-year-old record, 2:23—sired by the great Nelson, record 2:09 trotting. His dam, Bright Star, by Starlight. His grand dam, Violet, by Volunteer. His great-grand sire, Tom Rolfe, a son of the famous Pocahontas, that took a pacing record to wagon nearly fifty years ago of 2:17¼. We have here a combination of Hambletonian, Mambrino Chief, and Morgan blood, with the pacer added, which today is so harmoniously intermingled with the trotting strains, that by the form of the animal there is no telling whether the gait will be of the trot or pace. It may be either or both, with a good prospect of additional speed added. The two gaits of today are interchangable.

AMERICAN SADDLE HORSE.

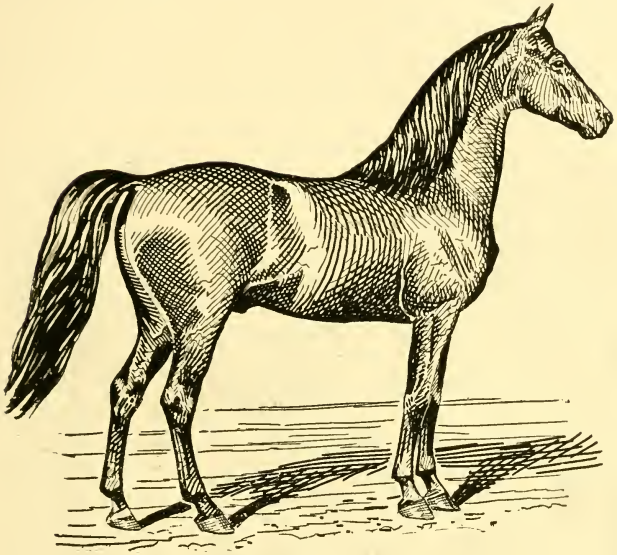
That this high class of special creation of American origin is destined to become very popular among the wealthy classes there is no question.

The American saddle horse is one of the very best organized animals of the different types, all things considered, and is a creation of beauty in outline, graceful in movement, intelligent akin to human, and more capable in the use and action of his legs than all others of the equine race.

AMERICAN SADDLE HORSE'S ABILITY TO CHANGE OF GAITS.

The use of the legs in going different gaits, is more remarkable with the saddle bred horse than any other. He seems to be endowed with the ability of instantly changing from one gait to another without hinderance or falter in movement. With the best specimens of saddle bred horses, the different gaits are clear and distinct, and free from friction. The plain walk is flat-footed and smooth; the fast walk (running walk, or fox-trot) is easy and without constraint; the trot, is a line movement; the rack, is steady and free from what would be called force, and without a pacing movement; the canter, is slow and clear, without shuffle and performed with either foot in the lead. The quality of the horse is fine, substance reasonable, weight in proportion to height, with evidence of endurance and good manners; much of the latter acquired by a proper education, which is only a demonstration of ability to go the different gaits and the instructor, to show when and how they should be performed. Illustration seen in cut No. 11, is that of Black Squirrel 2nd, and shows a typical animal of the type. Strong at every point, style front and rear, with a faultless "running gear"—feet and legs—which insures safety of seat, fearlessness in action, with courage and

horse sense, sufficient to make the rider enjoy horse-back riding to any other way of going.



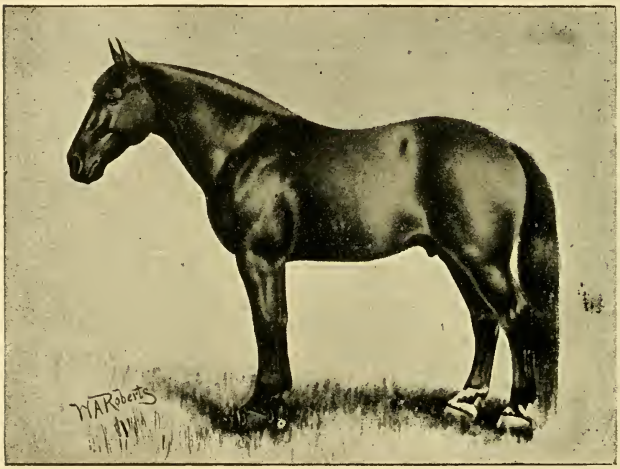
Cut No. 11.
BLACK SQUIRREL 2ND.
Champion Purse Winner.

GENERAL PURPOSE HORSE A RARE SPECIMEN OF ANY BREED OR TYPE.

The general purpose horse is more of an ideal animal than a reality. We have been trying for many generations to produce this much covet type of horses, with now and then an individual animal that seemed to just fill the bill, but when we have endeavored to build upon this principle, failure has met us at every hand and we must content ourselves with the individuals to be found among the different types.

Cut No. 12 shows the stallion of all work, and a close inspection will satisfy the majority that he is large enough (1,300 pounds), and when his breeding is known, none will deny but that he is possessed with action sufficient for the general purpose horse. He shows strong at every point, level headed, and to those looking for this class, he no doubt will fill the bill. This is a very good likeness of Red Wilkes, 1749, by George Wilkes, 519, by Hambletonian, 10:

Red Wilkes is the sire (at this writing) of 145 trotters and pacers, with records from 2:06¾ to 2:30. He has 77 sons, that have sired 357 trotters and pacers from 2:00½ to 2:30. He has 62 daughters, that are the dams of 94 trotters and pacers with records of 2:30 and below, and yet the casual observer would say to himself that he looks more like he would sire common work horses than those for racing purposes. Here again we have the combination of Hambletonian, 10, Mambrino Chief, 11, and the Morgan strains, and we get compactness of form, size and substance to suit the most critical.



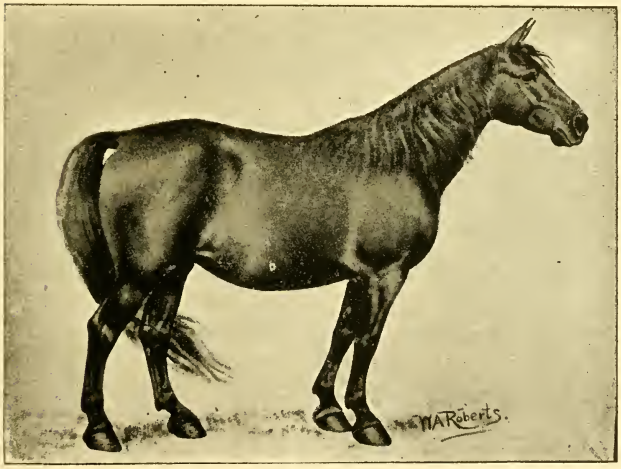
Cut No. 12.
ALL PURPOSE STALLION.

Cut 13 represents a brood mare that will mate well with the stallion for good serviceable horses of all work. She has well sprung pasterns, good feet, and legs well under her. She has an excellent digestive department, with roomy pelvis. She is muscular, has plenty of courage, and a mare of strong individuality. Examine this stallion and mare, point by point for mating.

This is Rose Chief, by Brown Chief, 5016, by Mambrino Chief, 11, dam, Lady Nichols, by John Dillard, by Indian Chief, 832, by Blood's Black Hawk. This all-purpose mare bred to this all-purpose stallion, produced Prince Wilkes, with a trotting record of 2:14¾ under old methods and high wheels.

THE STRICTLY CARRIAGE HORSE MAY BE FOUND IN SEVERAL BREEDS.

The carriage horse is in great demand, not only in this country, but for exportation. He must have size, style and action. While we have had many importations of stallions to mate with our American mares to supply this want in carriage teams so far, they have not filled the expectations of importers or breeders. The law of like begetting like applies to the blood lines in both stallion and mare to be bred together as well as in general conformation; consequently, all cross breeding must be considered to a great degree as experimental, and, remember, experiments are always attended with more or less failures before perfection is attained.



Cut No. 13.
ALL PURPOSE BROOD MARE.

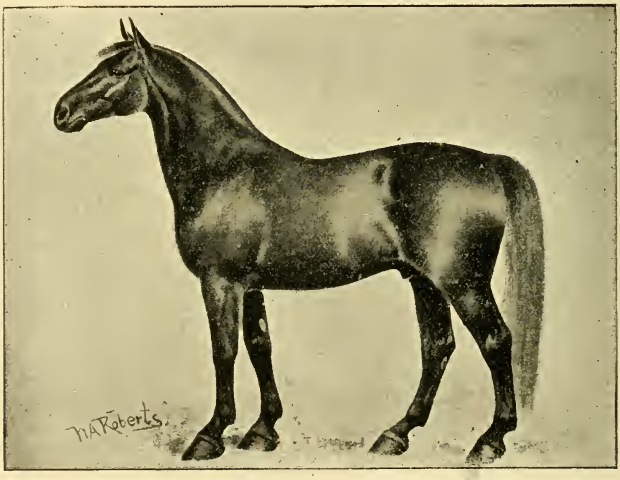
The French Coach and Hackney sires imported to this country might prove very valuable if we possessed the mares adapted to their blood, but up to the present time their services on our native mares has been too disappointing for recommendation.

Cut 14 shows the American coach horse, with speed enough to satisfy any carriage road rider, 1,250 pounds, sired by a son of Hambletonian, 10, dam by a son of Mambrino Chief, 11.

THE CARRIAGE BROOD MARE OF AMERICAN BLOOD.

This class of mares also must be of our American breeding or from imported stock that trace in the same blood line channels.

The fact that matched teams of typical carriage horses bring the highest prices of any other class in the markets of the world, should encourage the breeder who is the possessor of mares capable of supplying this demand, to devote time, care and money in the selection of stallions to mate them with to this end, remembering that breeding is as essential as conformation for uniform results.



Cut No. 14.
AMERICAN CARRIAGE STALLION.

COMPARISON OF BLOOD LINES AS NECESSARY AS THAT OF CONFORMATION.

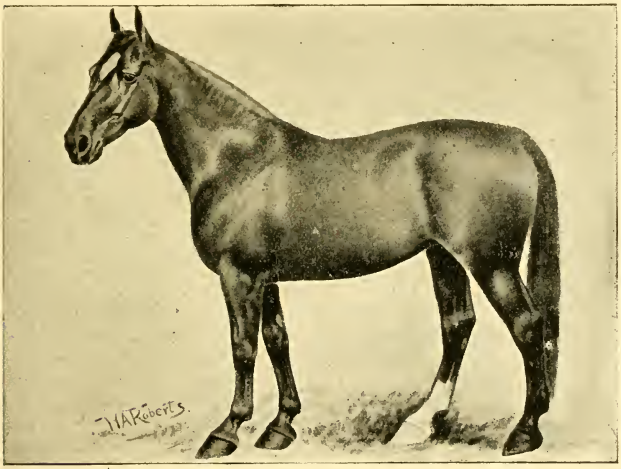
Comparison of the mares with stallions in conformation is with the view of correcting weaknesses and constitutional defects, but a comparison of blood lines is equally necessary where an improvement or even the maintainance of the general characteristics is desired.

Cut 15 is to illustrate the character of a matron to be bred to this class of stallions; compare the two, point by point, for the duties of the carriage for active work.

This mare is a member of the Clay, Pilot, Jr., Mambrino Chief and Morgan families.

COACH HORSE TYPES CONSIDERED.

From time immemorial, the type designated as the coach horse, has been the ambition of breeders to supply the fastidious people of wealth and fashion with carriage and coach teams, but up to the present time they have had to depend largely on the selection of individual animals (from any source) to meet the wants of fashion rather than the establishing of a typical and uniform breed or family of this high class of horses.



Cut No. 15.

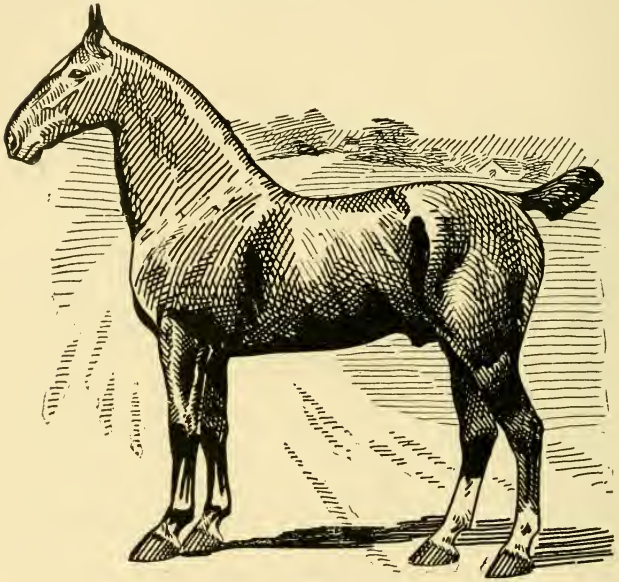
AMERICAN CARRIAGE BROOD MARE.

SIZE, STYLE, ACTION AND COLOR AIMED AT.

To get the desired size, together with style and action, has required a crossing of specific types of the heavy and light horses, relying in the beginning on Arabian sires for form, style and spirit, and dams of some of the larger types of horses, and later, with the English thoroughbred sires and dams of the heavier stock, but the stiff-kneed action of the running horse has so often failed to get the desired action that there have been many disappointments in the results. As to the color of coach horses, probably the bay has a more universal standing, but people differ so widely in taste, that what is fashionable this year may be off-color next year. Some want solid colors and others want white markings.

ALMOST ALL COUNTRIES TRYING TO GET THE POPULAR COACH HORSE.

While all countries are and have been trying to evolve just the desired animal for the coach department, it seems such a difficult problem that none have yet demonstrated to the entire satisfaction of any country that it is based on a solid foundation.



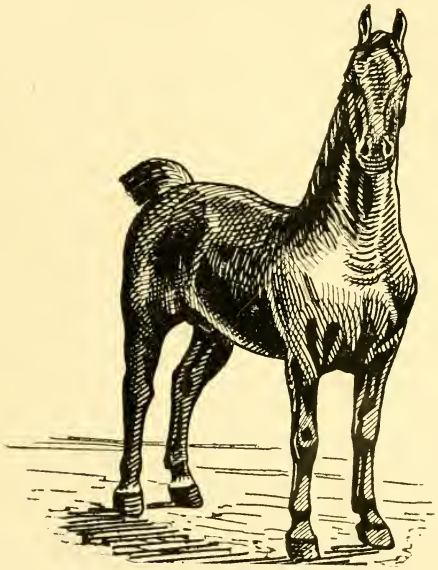
Cut No. 16.
HACKNEY.

The illustration, cut No. 16, is a good specimen of the hackney type; but we should ever deplore and forcibly condemn the practice of cutting off the tail—nature's wise provision to the horse for protection against his insect pests.

HACKNEY TYPE OF COACH HORSE.

This is an old type of animal of any breed that was considered valuable for all purposes, or in other words, a "hack about" horse of England; and generally a cross bred animal. But of late years the best specimens have been selected and bred together for the desired purpose with good results for their native country. It has been proven that the native stallions of this country of predominating Morgan blood,

crossed with the hackney mares of England, do far better than the English stallions have shown with American mares. Many importations of stallions of this type have been used in this country, but up to date they have not met the mares that would enable them to establish a fixedness of form, color, action and character that was expected generally. Many grand specimens of individuality can be found in England, but in this country they have proved more or less disappointing with our American bred mares, as we have not the same type of animals to breed them to, and cross breeding is always attended with uncertainties.



Cut No. 17.
FRENCH COACH.

Cut No. 17 is a three-quarter front view of a splendid specimen of the imported French coach horse, but like the English hackney, he has been mutilated at the rear end, and deprived of nature's protection against his insect enemies, a senseless and barbaric practice.

FRENCH COACH HORSE IN A FAIR WAY.

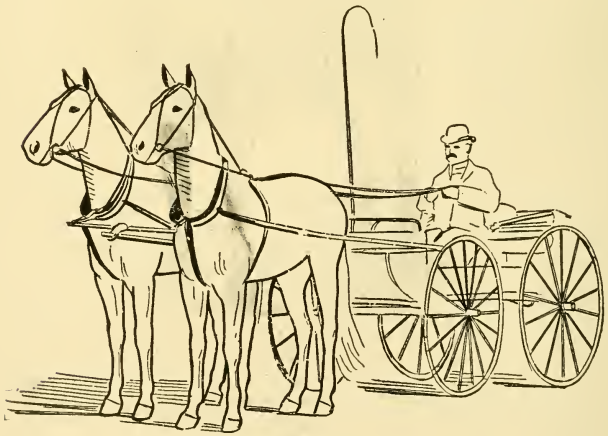
While the French Coach horse cannot be said to be more potent away from home, he is certainly on the high road to success in the establishment of a specific type in his own country, owing to the interest the French government is taking in their development, by selecting the

very best specimens for breeding purposes and controlling the breeding animals for the best results. This is the only manner of obtaining a true type of animals, and eventually they will gain their point of producing a coach horse of merit.

AMERICAN BREEDERS NOT IN THE BACKGROUND.

With the many noble specimens of the Arab, thoroughbred, and Morgan strains of horses we have had in this country, and the hard work in the development of the American trotter, we have no doubt now the very best material for the foundation of the typical coach horse, and as soon as we turn our undivided attention in that direction we will astonish the world in being able to get all the required essentials demanded.

Had we given as much attention to the development of the coach horse as we have to the speedy animal, we would have been at the top in form, style, action and possibly size and color, before this time. The introduction of the foreign coach stallions so far, has not seemed to work well with the mares of this country, and about twenty years' experience demonstrates that from such stallions as have been imported and bred to the mares of the country, we can find but very few specimens that meet the demands of the coach markets.

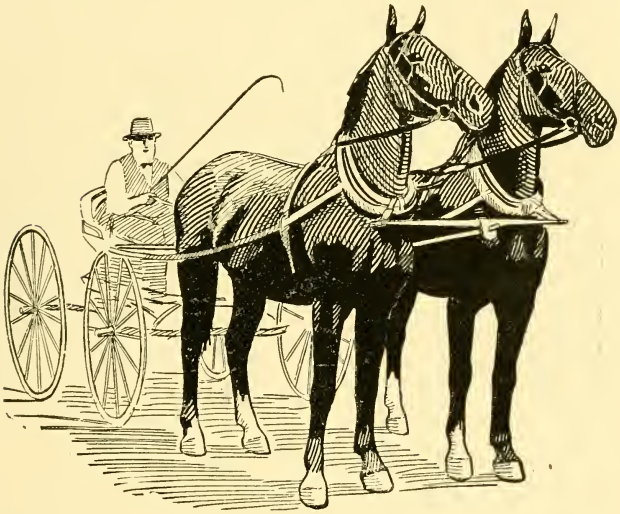


Cut No. 18.
PILOT BOY AND AMELIA, 2:09¼.

The outline sketch here presented, cut No. 18, is that of Pilot Boy, 2:09¼, and Amelia, 2:09¼, both by Pilot Medium, 1597, by Happy Medium, 400, by Hambletonian, 10. The dam of Pilot Medium was Tackey, by Pilot, Jr., 12., grand-dam, Jenny Lind, by Bellfounder.

AMERICAN BRED LIGHT ROAD HORSES.

The light road horses of America excel every other country, and are acknowledged to be the best in the world for the purpose. While the coach and heavy carriage horses are expected to have high action, that of the typical every day road horse must be of the low gaited order and should not be too heavy. Weight beyond the necessities of the load to be carried, is just so much dead weight to be carried by the horses themselves, to say nothing of the extra amount of feed of support for the extra live weight to be sustained.



Cut No. 19.

AMERICAN COACH OR CARRIAGE HORSES.

The illustration here shown, cut No. 19, is that of a team of half brothers, bred in about the manner indicated, and were owned by a friend of the author, and are very hard to surpass in many particulars.

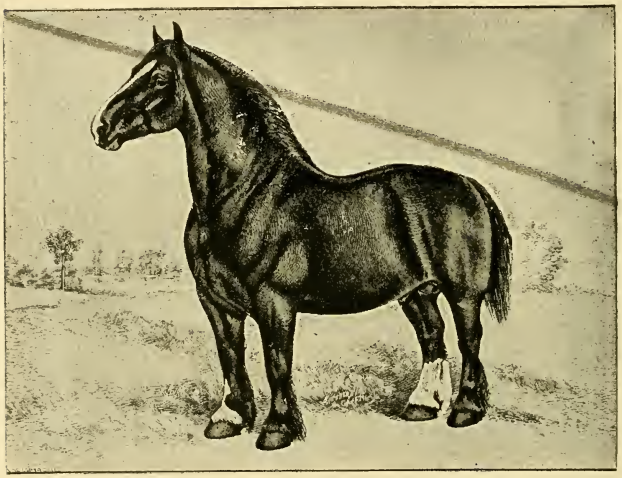
AMERICAN BRED HEAVY CARRIAGE HORSES.

Wherever the trotting bred horses of this country have attained the size and possess the style and finish required, they come nearer meeting the wants of the park and city riders and drivers than anything that has yet been imported from other countries. They possess the intelligence, spirit, endurance and speed, to satisfy the most critical buyers.

From the fact that our attention has been attracted to that of speed rather than style and size, is the principal reason why we have so few

high class carriage horses. Whenever we turn our attention to the carriage horse specifically, then we will attract the attention of every other country in this class of home production.

THE DRAFT HORSE IS A WONDERFUL TYPE OF SEVERAL BREEDS.



Cut No. 20.
DRAFT STALLION (Clydesdale).

Cut 20 shows a draft stallion of the type (not necessarily the breed) that is demanded in the markets. He has a strong organization, a good feeder, level headed, and shoulder that the collar can be made to fit well. His carriage is quite high, but it is at the expense of his back, he is a little down there. He has a good "dinner basket," consequently good digestion with ample exercise.

Any of the draft breeds (Percherons, French Draft, Clydes, Shires, Belgians, or English Draft), with the required size, sound and level headed, meet with a ready sale in the markets.

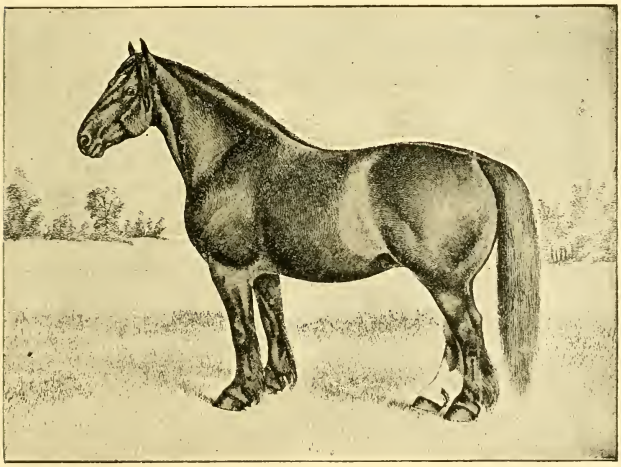
THE BREEDING OF ANCESTRY SHOULD BE IN HARMONY WITH THE INDIVIDUAL.

What we wish to particularly impress upon the mind of the reader is, that the selection of the type of animals for a special purpose is of the utmost importance and be sure that the breeding of the ancestry is in harmony with the selection of the particular type for many generations back. Combine these two and then there is but little specula-

tion as to the results in the production and maintainance of that type, all other things being equal.

CROSSING OF BREEDS OR FAMILIES SHOULD BE OF THE SAME GENERAL TYPE.

While we would always advocate the adherance to the selected breed, if crosses are to be made, our advice would be to keep in the line of the type, i. e., if the selection is for draft purposes, cross Shires with Clydesdales; Percherons with French Draft; Suffoik Punch with Belgians, for the best results, but any of these will be far preferable with one another than to cross any of these with the Hambletonians, Morgans, Mambrino Chiefs—any of the road types or thoroughbreds, must be deplored as tending to a loss of identity of both types for breeding purposes with the offspring.



Cut No. 21.

DRAFT BROOD MARE (Clydesdale).

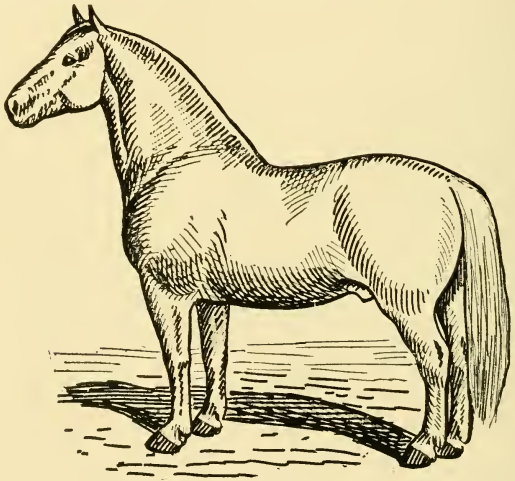
Cut 21 represents the draft mare suitable to mate this Clydesdale stallion. She is strong at every point, and if the breeding and characteristics of both their antecedents are of the same order, good results for the market of draft stock would likely follow.

While we have many most excellent Clydesdale horses in this country from the best selected imported animals, there are others that are a disgrace to any country: lacking quality, conformation and constitution. Don't let us pin our faith to any breed or type unless the re-

quisites of good horses are to be found in the animals. We must devote the required time and attention to sum up the whole matter in horse production. The "happy go lucky" style will never do to follow throughout.

DRAFT STALLION (Percheron).

This Percheron stallion, cut No. 22, is one of the best specimens of the breed that is to be found. He was imported by the late Leonard Johnson, of Northfield, Minn., and took the first prize at the state fair until he was barred, and at many other fairs where he was shown. While he weighed about a ton, he was as light a mover as the ordinary 1,200 pounder. He is almost perfect at every point and shows what may be done by careful selection in the breeding relation.



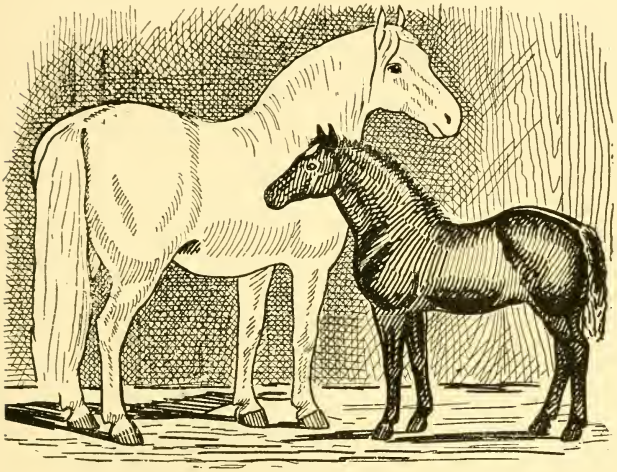
Cut No. 22.
GILBERT (Percheron).

The devotees of the respective draft breeds make strong claims for their preference, but a close observation of many years reveals the fact that good and bad are to be found in both the Percheron and Clydesdale, and the "kickers" against either breed are generally prejudiced. Let us always be frank and recognize the good horse as an individual, of whatever breed he may be, and discard the seriously defective.

DRAFT BROOD MARE (Percheron).

This Percheron brood mare, cut No. 23, like the stallion, is about as near the right form, style and finish as any one could ask. She is not only strong and vigorous, but she shows quality and her foal at foot,

shows her ability as a breeder. Perfection in form and ability in nerve force are essentials that never should be overlooked in the brood mare.

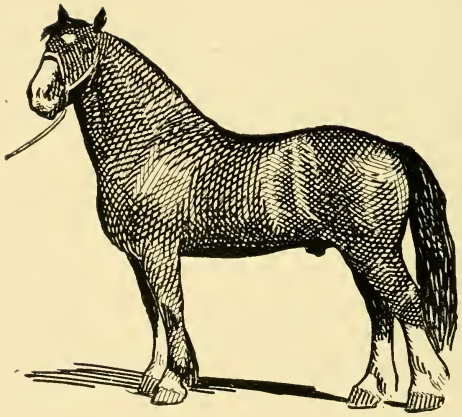


Cut No. 23.
PERFECTION AND FOAL.

The article on the selection of the brood mare, to be seen in Chapter XIII., deals with this subject at sufficient length, to give the student an insight to the subject for comparative observations: the only method of arriving at sound conclusions. Facts are what we want, one of which, when fully demonstrated, will overturn all the theories opposed thereto.

CHAPTER IV.

JUDGING HORSES.



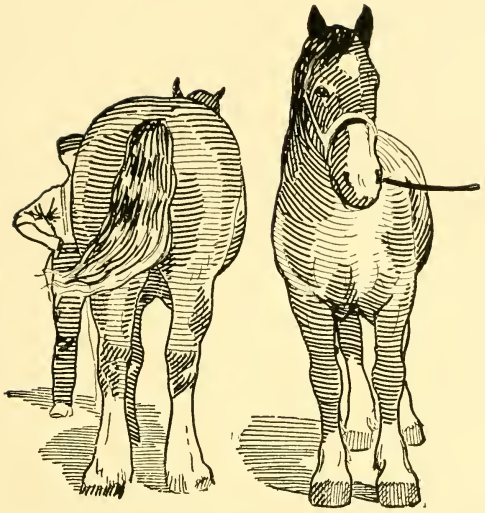
Cut No. 24.
THE SIDE VIEW.

Three positions are required to show the horse to the best advantage. From the side view, cut No. 24, we show his length, height, style and side appearance of the legs and feet.

The front view, cut No. 25, shows the breadth of forehead, width of chest and extension forward of breast bone, width of forearms, breadth of knees, size and form of feet, whether they toe in or toe out, and whether the front legs are too close together or too far apart.

The rear view is equally important to show the formation of croup, with width and strength of quarters and gaskins, the relative position of the hind legs, etc.

The views herewith given are of a three-year-old imported Clydesdale stallion, weighing 1,700 pounds.



Cut No. 25.

THE FRONT AND REAR VIEW.

SCORE CARD FOR JUDGING DRAFT HORSES ON A SCALE OF 100 POINTS.

GENERAL CHARACTERISTICS. 15 POINTS.

Height—Hands high, measured or estimated, 16 hands the minimum	2	.....
Weight—Weighed or estimated, 1,500 pounds the minimum	2	.....
Form—Symmetry, smooth, massive, legs well under body	3	.....
Quality—Firm flesh, dense bones, large tendons, hair and skin fine..	3	.....
Temperament—Good disposition, courageous, active for size	3	.....
Color—Bay, black, sorrel, gray, roan and cream	2	.....
	— 15	

FEET AND LEGS—"RUNNING GEAR"—MEANS OF LOCOMOTION. 45 POINTS.

Feet—Large, uniform size, smooth, dense horn, concave sole, strong bars, large elastic frog, wide upright heels	4	.....
Pasterns—Sloping, strong and springy, never upright or straight..	4	.....
Fetlocks—Wide and straight, never turning toes in our out	3	.....
Cannons—Short, clean and wide, with strong tendons	3	.....
Knees—Wide, well defined, strong, straight, and square to front ..	3	.....
Hocks—Wide, straight, strong and clear of "puffs"	4	.....
Forearms—Medium length, heavy muscled and well braced at chest	3	.....
Gaskins—(Lower thighs) wide and heavy muscled inside and out ..	3	.....
Arms—Short and rather straight, strongly supported at shoulder ..	3	.....

Thighs—Deep and muscular, well filled in angle	3	.....
Shoulders—Rather straight, heavy muscled into back	3	.....
Quarters—Wide and massive for lifting heavy loads	3	.....
Hips—Smooth, wide and level, neither higher than the other	3	.....
Croup—Wide and muscular, tail, strongly set and well carried	3	.....
	—45	

BODY—(MIDDLE PIECE)—SOURCE OF HEAT AND POWER. 15 POINTS.

Chest—Wide and deep, extending well forward, large girth	4	.....
Ribs—Well sprung, horizontally from spine and close together	3	.....
Back—Short, straight and heavily muscled	3	.....
Loin—Wide, deep and smooth, may be a little arched	3	.....
Underline—Long, but low at the flank	2	.....
	—15	

HEAD AND NECK—SEAT OF INTELLIGENCE, SPIRIT AND STYLE. 20 POINTS.

Head—Lean and straight, jaws strong, wide and well spread	3	.....
Forehead—Wide between the eyes, but not "dished"	3	.....
Eyes—Large and full, clear and bright, but mild	4	.....
Ears—Medium size, pointed, well set and active	3	.....
Muzzle—Fine, nostrils good size, lips thin and compressed	3	.....
Neck—Broad and muscular, not too thick at shoulder, good crest	4	.....
	—20	

PERFORMANCE—ABILITY TO DO REQUIRED WORK WITH EASE. 5 POINTS.

ACTION—Strong, vigorous walk, strong line movement at the trot	5	.....
	—5	
	—100	

NOTE.—After the student has made himself well acquainted with the several parts of the horse, he may then group each division and arrive at practically the same result very rapidly. A general knowledge of horses is good, but it is very important that each part be studied in detail, noting their strength as well as their relative value to other parts.

SCORE CARD FOR JUDGING LIGHT HORSES ON A SCALE OF 100 POINTS.

GENERAL CHARACTERISTICS. 15 POINTS.

Height—Hands high, measured or estimated, 16 hands the limit	2	.....
Weight—Weighed or estimated, 1,200 pounds being the limit	2	.....
Form—Symmetry, smooth, stylish and legs well under the body	3	.....
Quality—Firm flesh, dense bones, strong, well defined tendons, hair and skin fine and soft, yielding to the touch	3	.....
Temperament—Good disposition, courageous and active but not nervous	3	.....
Color—Bay, chestnut, black, brown, sorrel, roan, gray and cream	2	.....
	—15	

FEET AND LEGS—"RUNNING GEAR"—MEANS OF LOCOMOTION. 45 POINTS.

Feet—Good size with upright walls, dense, smooth horn, concave sole, strong bars, large elastic frog, wide upright heels	4	.....
Pasterns—Sloping about 45 degrees, never upright or straight	5	.....
Fetlocks—Ankles wide and straight, not turning the toes	3	.....
Cannons—Short, clean and wide, showing strong tendons and cords	2	.....
Knees—Wide, strong, clean, deep, straight and square to front	3	.....
Hocks—Wide, clean cut, moderate angle and free from "puffs"	3	.....
Forearm—Long, well muscled, wide and well graced at chest	3	.....
Gaskins—(Lower thighs) wide and muscular inside and out	3	.....
Arms—Short, and sloping to the front, well muscled	3	.....
Thighs—Long, deep and muscular, well spread, leaving open angle	3	.....
Shoulders—Sloping, smooth, muscular, extending into back	3	.....

Quarters—Wide, deep and heavily muscled, propelling power	3	.....
Hips—Smooth, wide and level, neither higher than the other	2	.....
Croup—Long, wide and muscular, not steep or too flat	3	.....
Tail—Well supplied with hair, carried high and straight	2	.....
	— 45	

BODY—(MIDDLE PIECE)—SOURCE OF HEAT AND POWER. 15 POINTS.

Chest—Deep and wide, extending well to the front, large girth	4	.....
Ribs—Long, well sprung, close together and close to hips	3	.....
Back—Short, straight and muscular, broad	3	.....
Loin—Wide, deep and smooth, may be a little arched	3	.....
Underline—Long and well down at the flank	2	.....
	— 15	

HEAD AND NECK—SEAT OF INTELLIGENCE, SPIRIT AND STYLE. 20 POINTS.

Head—Lean and straight (not Roman), jaws wide and well spread	3	.....
Forehead—Wide between the eyes and full—not dished	3	.....
Eyes—Large, full, clear and bright, and of dark or hazel color	4	.....
Ears—Medium size, slim, fine pointed, carried erect and active	3	.....
Muzzle—Fine nostrils, large and thin, lips thin, even and firm	3	.....
Neck—Muscular, high crest, fine at throat, wind pipe large	4	.....
	— 20	

PERFORMANCE—ABILITY TO MOVE WITH STRENGTH, EASE AND GRACE. 5 POINTS.

Action—Strong, spirited walk, rapid, bold and frictionless trot in line movement—no "paddling," "fanning" or "cuffing" in front or behind, nor "rolling" motion	5	.....
	— 5	
	— 100	

NOTE.—The two score cards given will illustrate the critical examinations that horses undergo in the markets, as well as the nice distinctions which are made at fairs or in the selection by breeders. By this method of judging, the horse is scanned point by point, and all details of the several parts are carefully estimated as to strength and proportion, and when these are well understood then they can be rapidly grouped.

CHAPTER V.

EXAMINING HORSES FOR SOUNDNESS, BY GOOD AUTHORITY.

SOUND HORSES.

Absolute soundness rarely, if ever, exists. This being the case, we have to be contented with "practical soundness," which is the nearest approach to a perfectly sound horse.

A sound horse is one that is free from all disease and has nothing about him that interferes or is likely to interfere with his usefulness, or depreciate his value.

PRACTICALLY AND SERVICEABLY SOUND HORSES.

As practical soundness is what we have to deal with in examining a horse, it must appear, first, that he is free from all disease that renders him unable to do his kind of work as a sound horse should; second, that certain conditions are not present which, in a longer or shorter time, may render him unfit to do the work of a sound horse; third, that nothing exists that tends to depreciate the value of the animal as compared to a sound horse.

How is it best to proceed to examine the animal? We must bear in mind that a horse may be temporarily unsound or permanently unsound.

TEMPORARY UNSOUNDNESS CONSIDERED.

Temporary unsoundness may include certain diseases, of which, after the animal has recovered, little or no trace remains; it also includes certain forms of lameness, as interfering, slight sprains, etc., which subside in a short while. In examination it is necessary to look for disease, malformations, etc., and not for soundness.

EXAMINATION AT REST AND IN MOTION.

The horse to be examined should be seen, first, at rest, in and out of the stall; second, in motion, both when warmed up and when cooled off.

WATCH THE HORSE CAREFULLY IN THE STALL FOR HABITS.

Ascertain how the animal feeds, while at rest in the stall—if he cribs, sucks wind or weaves. Notice his position of standing and watch him

while backing out of the stall, to see whether there is dragging of the feet, or other peculiar actions.

On the floor, have nothing on but a halter. Take a general glance at the animal, noting the position of the extremities, color, size, and general outline. Then proceed to examine, part by part, commencing at the head, not forgetting to compare one side with the other as the examination progresses. Nothing should be overlooked, and when the examination is completed, a definite conclusion is easily arrived at.

EXAMINATION OF THE HORSE'S HEAD.

In examining the head note the shape, the conditions of the bones of the face, the shape and condition of the eyes, the pupils, the ears, the mucous membrane of the nasal cavity (noting the color and looking for ulceration, growths, etc.); then examine the contents of the mouth, the age, shape, size and wearing surfaces of the teeth, and examine the bars for fractures; and then pass to the inter-maxillary space, feeling the pulse, the condition of the lower jaw, whether thickened or thinned; examine the glands in this region, then the poll, the throat, the condition of the glands, not forgetting to cause the animal to cough and remembering the kind of cough; pass along the neck, note the condition of the mane, the jugular grove, the trachea.

EXAMINATION FOR FRACTURES, HERNIA, TUMORS, CURBS, SPAVINS, ETC.

Look over the shoulders for marks of setons, wasting of muscles; the elbows for capped elbow; the knee for fractures, inflammation, etc.; the shin bones for splints; the tendons for their condition; the fetlock for fractures, swellings, scars of neurotomy, etc.; then look for side bones, ring bones, etc.; and finally the general outline of the feet, as regards size, shape, etc., and in particular the toe cracks, quarter cracks, results of laminitis, navicular disease, etc.

EXAMINATION OF THE HORSE'S BODY.

Next take the body under observation, remembering to examine both sides; first the withers, looking for marks of setons, swellings, etc.; then the condition of the ribs; test the heart and lungs; look at the abdomen for hernia; the flank, noting the respirations, whether quickened, slow, irregular and the like.

EXAMINE FROM THE REAR FOR HIP FRACTURES, TAIL, STIFLES, ETC.

Next stand behind the animal and examine the hips for fractures and swellings; then the hip joints (remembering to compare one side with the other); examine the tail to see if false; look under the tail for tumors; the flank for hernia and tumors; the stifles for swellings, dislocations; the hocks for spavins, thoroughpins, curbs; then pass downward, noting the condition of the parts in the front limbs.

EXAMINATION FOR LINE MOVEMENT AT DIFFERENT GAITS.

Have the animal trotted by the halter in as straight a line as possible in a slow, easy trot, allowing the horse about one foot of rope, so as not to interfere with the action. The animal should be trotted away from the examiner, at which time the movements of the hind legs may be noted, and when trotted towards him the movements of the front legs.

EXAMINE WHEN THE HORSE IS WARM AND THEN WHEN COOL.

When the animal is warmed up, lameness may not be shown; while if cooled off, it manifests itself, and vice versa. Next have the animal galloped to test his wind; see if the breathing is fast, irregular or noisy. D onot forget to examine the eyes.

CHAPTER VI.

EXAMINATION FOR LAMENESS.

FIND CAUSE OF LAMENESS.

Among the causes of lameness are weak conformation of bones, muscles, etc., tissues being too frail to stand the strain; the fetlock may be too long, causing an extra strain on the tendons; the hock may be too angular, predisposing the animal to curb, or too straight up and down, predisposing to spavin; the hoof may show too high a heel, favoring contraction; or too low a heel, favoring corns, puncture, bruises, inferior shoeing—that is, fitting a shoe while too hot; having the shoe press upon the sole instead of the walls; overtaxing muscles, tendons and ligaments by pulling a heavy load over rough and muddy roads; constant jerking and blows from the wagon pole and harness—all of these are causes of lameness.

FIND WHERE AND HOW THE HORSE'S LAMENESS AFFECTS HIM.

How to discover a horse is lame or where he is lame is not so easy a matter as some may imagine. It is best to observe the animal first standing. If the horse points persistently—that is, places the foot in front of the normal position—the lameness is very apt to be below the fetlock. If the knee is effected it is often kept in a bent condition, while in shoulder and fetlock lameness the toe generally rests upon the ground. After examining the horse standing, allow him to go in a slow trot to and from the observer, holding the halter strap about a foot and a half from the head.

WATCH THE HORSE'S HEAD AND EARS WHEN IN MOTION.

Watch carefully the animal's head and ears while he is trotting toward you. He will attempt to protect the lame leg by throwing the most of his weight on the sound one, and if the lameness is in front will nod his head when the weight is thrown upon the sound one.

WATCH HOW HE PROTECTS THE LAME LEG.

When the animal trots away from you, if the lameness is behind, he will attempt to protect the lame leg by throwing his weight heavier on the sound one.

Having determined which leg is lame, the next thing is to locate the seat of the lameness.

WHEN IN DOUBT, MOVE A SOUND HORSE WITH THE LAME ONE.

If there is any doubt about whether the animal is using its legs properly, take a sound animal and trot it up and down, and compare its actions with those of the lame one

SHOULDER LAMENESS DETECTED BY LIMITED ACTION.

Shoulder lameness is evident by limited action of the entire shoulder. The animal seems anxious to keep stationary, and in bringing the leg forward does so by an outward swinging motion. The horse that is knee-lame aims to keep the knee as stiff as possible, and in moving the leg forward bring the shoulder muscles into play. The leg is advanced in a dragging manner, the toe is hardly leaving the ground and the leg is bent as little as possible.

JERKY ACTION IS MANIFEST IN FETLOCK LAMENESS.

Fetlock lameness is manifested by a short, jerky step, the animal stepping on the toe or often hopping on three legs. Lameness caused by sore or enlarged tendons is similar to shoulder lameness, and is best examined with the animal at rest, as then the swelling, heat or pain is generally detected along the course of these parts.

GREAT CARE IN EXAMINING FOR FOOT LAMENESS.

It is more difficult to diagnose foot lameness. The best thing is to pick up the foot and tap it lightly with a hammer and notice the flinching when the sore spot is touched. If the animal is nervous, it will require great care to distinguish between the actual pain and the nervousness.

HOPPING MOTION IS SEEN IN HIP LAMENESS.

Hip limeness is known by a peculiar hopping gait. The animal, while trotting, turns the hock of the lame leg in and stifle out.

DRAGGING MOTION IN STIFLE LAMENESS.

Stifle limeness shows itself by the difficulty the animal experiences in elevating this part and bringing it forward, which is usually done in a dragging fashion. The stifled animal either has the lame leg stretched out behind or stands firmly on the sole. In the first case he cannot back, and in the latter he cannot move the lame leg forward.

There are so many phases of lameness and so much difference in horses about withstanding injury and pain, or yielding to the slightest infliction, that it makes the subject of the examination for lameness a most difficult task to meet all cases. There is so much ignorance, prejudice and egotism connected with the examination of the horse for lameness that the following is given as an offset, and to somewhat relieve the mind of the reader:

A CHAT ON LAMENESS.

By My Old Friend, Dr. Wm. Dickson.

I could give you more than one technical definition of what lameness is, but "a rose" we are told, "by any other name would smell as sweet," and as a lame horse to his owner means a horse he cannot use, that description will fill the bill as well, or better than, any other. I have no intention of wandering into a disquisition on the "isms" and "ologies," and involving myself and you in a mist of unintelligable technicalities. I heard a lecture the other day on "Scientific Ventilation," and I have been tired of abstruce science ever since. The lecturer was excessively learned, and never used a simple term when a scientific one would do. His point was to show the hurtful effect of carbonic acid gas, which he styled C-O-2, on animal life—the animal experimented on being a cat. Warming with his subject, the professor, a man of very imposing appearance, by the way, fairly revelled in a mist of chemical technicalities—disappeared to his boots, in a cloud of scientific formulas, and all the ordinary mind carried home with it was the fact that a certain amount of C-O-2 would kill C-A-T!

Now, I don't propose to fall into any such a trap as this. We, none of us, want lame horses, of course; but we are all of us liable to get them once in a while.

When you've got a lame horse, the first thing to determine is which leg he is lame on; and this is not always as easy as it looks, except in cases of severe lameness. Ninety per cent of all lameness occurs in the feet. Itinerant horse cranks, whose natural prey the confiding farmer seems to be, usually have some favorite and oftentimes unlikely locality to which they ascrible all lameness. Why it should be so, I don't know, but the most common is the shoulder. Now, this is just the last place I look for lameness, unless signs are particularly diognostic. Actual shoulder lameness is easily told from any other—the horse invariably advances his leg semi-circularly, as a man does his wooden leg.

The sense of touch which can detect any unnatural heat is the best means of locating trouble.

FOOT FOUNDER,

Or Laminitis and Navicular disease, are largely responsible for the abominable practice of cutting out the sole and paring the frog on (?) approved principles in the latter; as well as the barbarous practice of nailing on a shoe two sizes two small, and then chopping off the foot to fit it. Does inflammation occur in the hind feet?

It is most common in the front feet, but sometimes it occurs in all four feet. If it is severe you can readily detect it by trying to back up the animal, and you will find that he moves very reluctantly.

Are aloes a good remedy for this disease?

A violent purgative would be apt to leave you without any necessity for further treatment and also without a horse.

RING BONES AND SIDE BONES.

Ring bones are the result of disease of the bony structure and side bones of the fibro-elastic cartlages, whose office it is to prevent undue expansion of the feet at the heels.

Can ring bone be cured? Sometimes they are cured. That is to say, the lameness disappears. The best place, however to have ring-bones or spavins is on another man's horse. "Cranks" will modestly admit their inability to cure either one or the other, but they can "kill" them, every time. This is as a rule, absolute nonsense. Lameness from spavin is often got over in young horses, but rarely in old ones. Rest is the main factor in the cure. Firing and blister will expedite the cure. Anchylosis or growing of the joint solid is what happens. Some of the gliding motion of the lower portion of the hock is lost, but the horse is practically as good as ever. I use one ounce of biniodide of mercury to eight of lard as a blister. There are a heap of things that a farmer can do for himself, but when an animal is really ill, always get the best qualified man available to treat it; and when you get his advice and pay for it, follow it; don't keep a dog and do the barking yourself.

SPLINT.

What do you say about a splint that does not lame a horse? Take my advice and leave it alone. Never hold a funeral until the corpse is read.

What liniment is good for sprains? A very simple lotion for sprains and also for flesh wounds, is one ounce of sugar of lead and six drams of sulphate of zinc, in a quart of water.

WOLF-TEETH.

Do wolf-teeth cause blindness? No, sir; they do not.

BOTS.

Bots rarely harm the horse, his stomach is their natural winter residence.

CURB.

A curb is not a bone disease at all. It is a sprain of a ligament, usually it lames only young horses. Rest and a high heeled shoe with a cooling lotion in the inflamatory stage. Hand rubbing or a blister will remove the thickening of the parts, after inflammation subsides.

CHAPTER VII.

SELECTING THE STALLION.

As a public teacher in farmers' institutes for the past thirteen years, I have been very careful to treat this subject in so plain and careful a manner that it would not be misleading. My advice always is, to first decide upon the type or class of horses to be produced, and then start out with the full determination of finding the ideal individual as near as possible in every particular, remembering always that the sire is considered one-half of the herd.

SIZE AND FORM FOR THE PURPOSES REQUIRED.

He should have the desired size, form, style and carriage to meet the requirements expected.

PROPER DEVELOPMENT OF FIRST CONSIDERATION.

He should have the very best of feet and legs, and above all, they should be hung to the body properly for easy and frictionless movement (see the points in examination of the feet and legs illustrated in Chapter II.) He should be large around the girth (vital powers) with a good middle-piece (digestive capacity), broad, strong loin, muscular quarters, broad gaskins and broad, clean hocks. His back should be short in comparison with length of the underline. His shoulders muscular and well defined, fore-arms well muscled and the front legs not too wide apart nor too close together. His neck should be of good length and width, but not too thick. His head clean and set on the neck at a graceful angle, with the jaw-bones well spread, giving free room for the wind-pipe. The eyes should be full and clear, with a kind expression. The ears fair length, slim, erect and active. The nostrils large, thin and dilating. The lips thin, shapely and compressed. His action should be easy, graceful and without apparent effort and a line mover.

INDIVIDUALITY OF THE TYPE MUST BE CONSIDERED.

All these are important as an individual, but for a sire, the stallion's breeding must be as closely studied as his individuality, and for several generations back, if we expect him to be successful in producing what we desire. The law of "Ativism," "Reversion," "Breeding Back," etc., is so well established that we cannot afford to ignore it, and no matter how fine the individual may be, if his ancestors did not possess these desirable characteristics, disappointments must naturally be looked for, as they are about as sure to follow as the day succeeds the night.

SHOULD BE BRED STRONGLY IN THE TYPE HE REPRESENTS ON BOTH SIDES.

The sire should be so strongly bred in a definite line of performance that he will be able to control the general external characteristics and the dam sufficiently well bred to give the nerve-force, endurance, vigor and constitution. In other words, we must adhere to a line of uniformity in both sire and dam for the purpose of improvement in the breeding relation.

CROSS WITH THE JACK AND THE MARE.

As an illustration in out-crossing to show the natural law of the sire controlling the external characteristics and the dam the internal, we would call the reader's attention to that of the jack and the mare, and in this cross we would ask, who ever saw a mule that closely resembled its dam? Now, use the thoroughbred stallion with the jenny, and we have a perfect little horse in external characteristics in every particular, as much so as that of the jack and the mule, and the produce in either case are not generally breeders, but hybrids. In the case of the thoroughbred mare and the jack, we have the nerve force of the thoroughbred in the mule, which makes Kentucky and Missouri the famous mule producing districts.

CROSS WITH THE THOROUGHBRED HORSE AND JENNY.

In the case of the thoroughbred sire and the jenny, we get a very small animal and, like its dam, scarcely has ambition enough to go in out of the storm, and consequently, comparatively worthless. This same law applies to the crossing of all animals and whenever the sire is the result of a cross of any kind, he is almost certain to be a failure. He must be bred in a definite line for generation after generation, to be able to correct the external defects of the mares he is bred to. Please remember that the selection of the sire is of the most vital importance, when it is considered in its true light and must not be treated, as is too often the case, in the line of an experiment. We cannot afford to be continually and always in the experimental stage with our horse breeding. We must establish principles and rules of practice that will serve as a guiding star, to the unborn horse breeders of the country.

CHAPTER VIII.

WINTERING SERVICE STALLIONS.

The wintering of service stallions is a matter of more importance than it is usually considered to be. The successful wintering of stallions is the preparatory stage for the reproduction of the species the next season, with a prospect of improvement of the race, and improvement is insured by storing up and maintaining all the vigor and endurance of our stallions that the term implies. The successful race-horse is made by development of muscle, nerve-force, lung power, speed, game and endurance, which requires time, work, patience and perseverance by his trainer. The successful livery horse requires as careful preparation to make him profitable to his owner, and the draft horse has to have a like preparation to withstand the strains in pulling great loads, while the stallion, to be successful in the stud for the spring season, must be properly wintered, if we would approach the improvement of the equine race that is aimed at.

CONDITION FOR WINTERING.

The stallion should go into winter quarters with a moderate coat of flesh, not fat, nor thin. His shoes, if any, should be removed and his hoofs trimmed down just even with the natural untrimmed sole and the edges rounded nicely to prevent breaking.

THE FEET OF THE STALLION REQUIRE GREAT CARE.

The stallion's feet should be cleaned out every day with a foot-hook to prevent foul matter from collecting about the frog of the feet and producing "thrush," from which the feet become diseased, which sometimes renders him worthless. The stallion should have a roomy box-stall warm and well ventilated, and if he cannot be driven daily, he should have a large exercising lot in connection, in which he can, at will, run in the open air. Exercise is just as necessary as food and water for the maintainance of activity of muscles, digestion and nerve force. And the stallion that has plenty of exercise, with kind treatment, will not become vicious or likely to contract bad habits; but the stallion confined in a dark stable is very likely to contract bad habits and become troublesome in some way and useless as an important sire.

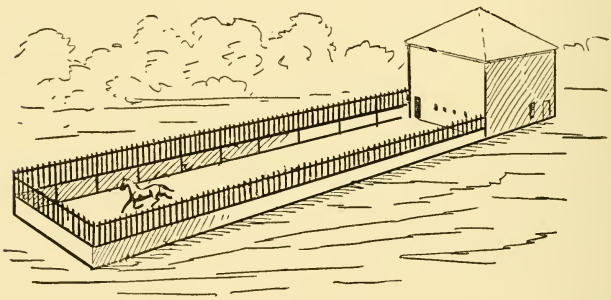
EXERCISING LOT FOR THE STALLION WHEN NOT AT WORK.

The exercising lot should be long and rather narrow, so that the stallion will not be likely to run in a circle, slip and fall and injure him-

self. With the long lot he will have a chance to extend himself, and when near the end of the lot, will stop with his feet all under him, which is not so liable to injure him as if he were running in a circle.

STALLION YARD FENCE OPEN SO HE CAN SEE HIS SURROUNDINGS.

The writer has used this character of a stallion yard and fence for years, and prefers it to any other, for the reason that it gives the stallion an opportunity to see all that is going on around him and prevents him from getting lonesome and nervous from the noises round about him for which he cannot see the cause. The high, tight fence is a veritable prison to the ambitious stallion and frequently keeps him fretting and worrying to the extent of losing in vigor, instead of maintaining what he already has. This exercising lot should be separate and apart from all other horses, and the wide door of the stable should open out into this lot for both the convenience of the keeper and the benefit of the stallion.



Cut No. 26.

STALLION BARN AND EXERCISING LOT.

The reader will please note that in Cut No. 26 the fence is tight one-half its height (4 or 5 feet) and slat fencing above, so that the stallion can see all that is going on outside.

HARNESS OR SADDLE WORK FAR PREFERABLE TO THE EXERCISING LOT.

While the exercising lot as here described is far better than anything we have ever used for voluntary exercise, it must be remembered that there is nothing so good for the stallion and his offspring, as every-day work in the harness or under the saddle. When the day comes that the stallion, to get patronage, must show harness marks and other indications that he is strong and hardy by work, then we will be on the high road to success in horse-breeding.

FOOD THROUGH THE WINTER.

The food of the stallion through the winter should be in keeping with the amount of exercise taken; some stallions will, of their own accord, take ten times the work that others will, and if he is driven, the feed must correspond to his work. Don't get him fat, nor let him run down in flesh. Oats and bran, with some corn, if he suffers with the cold, will be found excellent; corn is a good heater.

Roots may also be given to advantage in small quantities, twice or three times per week, but good, nourishing foods, given often, and at regular intervals, in small quantities at a time, will be found to be the best for the great drain on the system during service season, of which the wintering of the stallion is the preparatory stage.

KEEP THE STALLION STRONG AND VIGOROUS.

If the stallion is allowed to run down in flesh and lead a life of absolute idleness through the winter and then the preparation for the season's work, when it is almost upon us, is attempted, we will make a great mistake. There is no tax upon the animal economy that calls into play all the energies and activity of the whole system like that of each service during the whole season, and unless the stallion is well prepared for this work, how can we reasonably expect him to be sure in service or improve the character of his offspring? We might as well expect to start in a racing campaign with a few days or weeks preparation, or to catch up the green, unbroken draft colt, put him into hard work at once and expect him to do as well as the old seasoned, well broken stand-by. It is frequently observed that the stallions that are in the harness every day at work, are the surest foal getters, and further, that the young foals are stronger and more vigorous than those of stallions that have had a life of what is termed good care and feed (shut in a stall with all they will eat). This, alone, should be a lesson to the observing and they should make exercise a very important matter with the service stallion in winter as well as summer. We want to impress the importance of exercise as one of the most essential requisites in the wintering of the stallion. To exercise we must add the feed required to keep up his vigor and then we will have a stallion in the spring, that can go on the stand and do good service to his patrons, make a reputation, and bring "ducats" to his owner. The work of the stallion should not be of the extremely exhausting character, but enough to encourage a good appetite and make strong muscles, send vitalizing blood through his arteries with renewed energy and render his disposition happy and cheerful.

WE PAY DEARLY FOR NEGLECT OF THE STALLION IN WINTER.

The horse being an animal of utility, and his value being largely estimated by his activity and strength, how important it is that we preserve the strength and action of our service stallions during their period of vacation for renewed service in the coming season. This is a matter we cannot ignore with impunity, without paying dearly for our negligence,

in the confinement of our stallions during the winter season. If we are keeping stallions, let us keep them in such condition that they will be a benefit, an improvement to the future living horses, or let us castrate them and put them to work to earn the food they eat, and thereby reduce the number of weaklings, bad dispositions and natural born cripples now sired every season, largely from the effects of improper wintering and want of preparing the stallions for the important service work they are expected to perform.

ROUGH FEED FOR THE STALLION.

The rough feed of the stallion during winter, may be well cured hay or corn fodder, but it should not be given in large quantities at a time. It is very bad practice to keep a manger full of hay before the stallion all the time, as it tempts him to keep his stomach distended with innutritious food, which is too apt to make him dull and inactive; to say nothing of the derangement of both stomach and bowels that is frequently engendered by such a course. Small quantities, twice a day, are enough to act as a vehicle for the more concentrated foods given, and will, thereby, aid digestion, whereas too much rough feed will be a hindrance to activity and muscular growth—the essential conditions aimed at.

WATERING THE STALLION OF GREAT IMPORTANCE.

Watering the stallion, for health and vigor, is a matter of more importance than is usually considered. The stomach of the horse is comparatively small (holding about three and one-half gallons) and a pailful or more of cold water will arrest the action of digestion, instead of aiding it; therefore, it is far better practice to water the stallion before feeding and give time enough for the animal heat of the body to warm the water, when it will pass out of the stomach into the bowels before giving him his ration of grain. If the stable is warm, and the weather not very cold, fifteen to twenty minutes is usually sufficient for a vigorous horse to warm the quantity of water he should drink at one time. Water the stallion often, and give small quantities at a time. Because others have done differently and their stallions did not die, or contract serious difficulties, is no argument that the above course is not an improvement on the hap-hazard way of feeding and watering stock. The amount of food saved, the improvement in health and vigor, together with the success in the stud, encourages us to try to impress the importance of this matter of watering the stallion before feeding.

SALT FOR THE STALLION AT ALL TIMES.

Keep a piece of rock salt in some convenient place where the stallion can have access to it as often as he may like, or give small quantities, twice a week regularly, for the health of the prospective sire.

PLENTY OF EXERCISE AND CLEANLINESS.

While the stallion shield (to prevent self-abuse) may, in some cases, be necessary, we are strongly inclined to the opinion that plenty of exercise is the most satisfactory practice to avoid their ever contracting the

habit; but when once acquired, it may be necessary to use the shield; still, we are confident that exercise will do more to regulate this pernicious habit than all other remedies combined. We have a number of stallions, and also have two or three shields, but we rarely ever use either of them, for the reason that whenever we have given the stallions plenty of exercise, we have seen no need for the use of a shield.

Keep the stallion stall scrupulously clean, for a stable, and you will have done very much towards the health and comfort of the stallion. His bedding should be clean and there should be plenty of it, that he may lie down and enjoy a good night's rest, without his joints coming in contact with the hard floor or damp ground.

FIRM BUT KIND MANAGEMENT.

Stallions should be treated firmly, but kindly, and should never be teased or fought. To go into a fight with a stallion, is a very dangerous and grave undertaking, and, although you come out victorious at the time, the chances are that it is only a question of a little time when he will get the better of you, and may endanger your life; whereas, if you are on good terms with him, he will not have the inclination to take any advantage of you. We must not for a moment conclude that the stallion has not his likes and dislikes, which we are bound to respect, and if we do not, we are apt, sooner or later, to learn to our sorrow, that we are mistaken. The stallion appreciates good treatment as much as any other animal; and it is prudent, at least, for every groom, owner, or driver to learn this lesson early in the life of the young stallion, for the benefit of both.

We could give many more details in the handling and care of the stallion, but if what we have here indicated is carefully carried out with the best stallions of the land, we will see a great improvement in the future generations of our horses.

WE MUST COMPLY WITH THE LAWS OF PRO-CREATION.

Successful procreation is governed by immutable laws, and if we would reap the full benefit, we must certainly comply with them, and if disregarded we are the losers in consequence of the violations. It is not certain, but what the mental and physical condition of the stallion and mare at the time of service, may not control that of the offspring in like character. Then with the mental and physical conditions right at the breeding period, we can more certainly look forward with favorable prospects in the foal to be, than if we are fighting the stallion and mare, arousing all the latent antipothies to man (comparatively dormant through domestication) and say we are surprised that the produce is a veritable devil in disposition.

CHAPTER IX.

CARE OF THE STALLION IN SEASON.

The breeding stallion, during the service season, requires special attention for the best results to those patronizing him. It must be taken for granted that he has been well wintered; been worked or had plenty of exercise every day; that he is strong and muscular at the beginning of the season; but because he is waiting for patronage. don't conclude he must not be exercised, but kept in the stable and fed all kinds of nostrums to stimulate the sexual function, which would be all wrong and must not be tolerated under any circumstance. While it is not best to exercise the stallion to the point of actual fatigue, it is of the greatest importance that he has his daily work, to keep him in the height of condition. Exercise and good nourishing food is all that is necessary for the stallion that has been properly wintered.

REGULATING THE SERVICES OF THE STALLION.

The regulation of the services of the stallion is a feature that is very hard for everyone to understand. Some stallions that are strong and recuperative force active, can do twice the business to advantage that others are capable of. But the most important feature of the stallion's work for the season is in the beginning. Too many services the first week may ruin him for the whole season. One, two or three services for the first and four or five the next week, is the safest and surest kind of a beginning, and afterwards one a day may be indulged in, but never more than two can be counted on as profitable; and let this be as seldom as possible. The stallion that has led a life of idleness through the winter cannot do justice to more than about two a week through the season. But the stallion that has worked every day and been well fed, can do far more and better business, to both his owner and patrons.

WATER, FEED AND HAY FOR THE STALLION.

Water the stallion before feeding, or whenever he would relish a moderate drink, except it be within two hours after feeding grain. Feed oats, corn, bran and a little oil-meal, either in mixture or separately and regularly, four or even five times per day, and quantity in proportion to the weight of the stallion and his digestion. Except the stallion is sick, let the condition powders, drugs, nostrums and medicines alone. Salt and ashes kept (or salt alone) where the stallion has access to it, is sufficient, but important. If the stallion is sick, do as you would if you

were sick, get the best medical adviser obtainable and carry out his instructions.

The hay for the stallion should be of the best and cleanest, but should not be fed in large quantities, as the services of the stallion are of a character that requires activity, energy and pressure on the abdominal visera. Twelve to sixteen pounds of hay in twenty-four hours is sufficient for the largest stallion, and much less for smaller ones. Too much hay has a tendency to make the stallion dull, short-winded and uncomfortable in his services.

HANDLING THE STALLION FOR SERVICE.

This is a much more important matter than most people will probably concede, but it is nevertheless true, that the quieter and least annoyingly the stallion can be handled, the better for the future offspring. No stallioneer should, under any circumstances, have a fight with his charge. Neither should he use a whip in handling the stallion for service. It tends to make the horse nervous, timid or more often vicious; all of which must have its influence with the progeny. The stallion or safety bridle, represented elsewhere, is all that is necessary in handling any stallion, both for the control of the horse and preventing rough teasing of the mare. He can be prevented from biting his keeper or the mare without any trouble. Never give the stallion pain when in close contact with him, but if he is headstrong, let him have his head and when at the length of the stallion bridle (twenty feet rope) "pinch" him promptly and he will have business with his keeper in order to get relief, which should never be neglected. Always give the horse comfort when he is near by and when he acts on his own volition, is the time to get him to understand that his groom is his best friend.

The stallion should not be allowed to tease the mare long or roughly, but as soon as it is determined that she is ready is the time that the stallion should be allowed to serve her.

Most stallioners have some specific methods of their own about how the stallion should cover the mare, but all of this depends largely upon how the horse has been educated to service. Some allow the stallion to come up from immediately behind. Well this will do if hobbles are always used on the mares, but otherwise this is a dangerous procedure and the stallion may be seriously injured. The approach of the stallion from the side or even as far forward as the shoulder of the mare, is the safer method if the stallion is properly educated.

The attendant of the mare should be instructed to be ready to elevate the mare's head just as the stallion goes to mount, and then there is much less danger of her kicking him, as she cannot get both ends up very well at the same time. In dismounting, the heads of both stallion and mare should be pulled together, which will throw their hind quarters away from each other and avoid injury from kicking. Never try to force a service where the mare is decidedly opposed to the embrace of the stallion, as the results will not be satisfactory generally. And a service when the mare is not in condition is a service thrown away.

ONE SERVICE AS GOOD AS ANY NUMBER.

Many mare owners have a "notion"—it is nothing more—that two or three services are better than one. But when it is positively known that there is sufficient vitalizing power in one service for seven or eight mares (as that many mares have been artificially impregnated from the one service) is certainly sufficient to satisfy the most incredulous, that one service is all that is necessary if conditions are all right.

ARTIFICIAL IMPREGNATION BY INJECTION.

It is far better where a stallion has a heavy run of business, to artificially impregnate all those over and above the number that would overtax the stallion. Keep the stallion vigorous and then a large number of his patrons may be artificially impregnated. It has been successfully demonstrated that the seed or vital fluid can be extracted from the mare after service, kept as long as five hours, divided among as many as seven mares, injected into their wombs and the whole eight get in foal. That is the first served by the stallion and the other seven by artificial impregnation. This last method is the only outlet for getting the very best stock and not have the sires overtaxed, minimize the service fees and have more good colts.

CHAPTER X.

GOVERNMENT OWNERSHIP OF STALLIONS.

The question of government ownership of all service stallions deserves more than passing notice. What France has done, and is still doing, in that line, is well worth pondering over. By a decree of Dec. 9, 1860, subsidies or prizes of from 100 to 600 francs each (according to the breeding and quality) were authorized to be given to approved mares with colts by government stallions. Besides this, large sums are given in prizes at the annual exhibitions. May 5, 1870, the department of agriculture appointed a director general, eight inspectors, twenty-six subdirectors, ten superintendents and twenty-six veterinaries. The work of this department was so satisfactory that, in 1874, the number of stallions owned by the government throughout France was ordered increased 200 per year until they should number 2,500, and the appropriations necessary for prizes awarded to breeding animals should reach 1,500,000 francs per annum.

WHAT THE FRENCH GOVERNMENT IS DOING FOR HORSE-BREEDING.

In this organization by the French government there has been one central object constantly kept in view; that is, the encouragement of the people, by every means possible, to adopt a higher standard of breeding. In order that this purpose might be accomplished, the choicest stallions of the different breeds and types were introduced into each locality, and offered for use to the mare owners at a nominal fee for service. To further prevent the use of inferior animals, a decree was issued in 1885 excluding from public service all stallions not authorized by the government.

In 1887 the government owned 2,460 stallions, and exported 34,518 horses from France during the same year, as shown by statistics, which demonstrates the appreciation other countries have for French horses.

WHAT THIS COUNTRY MIGHT DO IF UNDERTAKEN.

This country could accomplish far more under a similar system, from our vast extent of territory and abundance of cheap feed. But as long as every individual is determined to breed just what his peculiar whims may suggest, just so long will we fail to have a uniformity of our horses in the different types.

BREEDERS' ASSOCIATIONS.

If the various breeders' associations of the country can accomplish the work of breeding from only the sound stallions and in uniform lines, we may yet see great results, but it looks as though nothing short of government control will bring about the desired results.

CHAPTER XI.

SELECTION AND CARE OF BROOD-MARES.

Selection of Brood-Mares.

The breeder's selection of his brood-mares, must depend on the uses he intends the produce for. Without a definite object in view from the beginning, more or less failures will naturally follow; and to be more fully understood, we will describe what we verily believe to be the points of greatest merit in the selection of the brood-mares for any type of breeding.

SIZE.

The size of the brood-mares will depend on the class of animals desired in the offspring. If draft stock is the object, then the brood-mares must of necessity be large, for the desired results. If it is to be coachers; then she must be the required size, style and lofty action desired by the fanciers of that type. If for the road, then she must not be large, or her progeny will be too apt to have so much weight that they will give out in the legs or feet.

STYLE.

The style of brood-mare should always correspond with the best of the type to which she belongs. Style in the carriage of the head and tail, as well as that of the action of our road and carriage horses, is of the utmost importance to the breeder. Size, style, ranginess and finish in all of our pleasure horses are the requisites that bring the profits to the producer, and unless the brood-mare possesses these, it will be a difficult matter for the offspring to manifest it.

QUALITY.

The general character of all brood-mares should be much the same in many respects, viz: fine of the class to which they belong; i. e., fine dense material in the feet; fine dense bones with strong clean joints; fine, soft hair; fine grained, pliant skin; bright, expressive eyes; fine heads; fine, well set upright ears and fine hair in the mane and tail.

NERVE FORCE OF MOTIVE POWER.

This force is equally applicable to all classes of brood-mares in proportion to the anticipated work of their descendants.

Even the slow work of the draft horse, should manifest itself in a vigorous walk of the brood-mare; but too much of it makes a very unpleasant draft horse, and a want of it makes a drone that nobody wants for any purpose, if he understands himself.

The more active duties to be performed, the more nerve power is needed. The coacher wants sufficient nerve force to enable him to always hold his head up, and to step off, as though he was fully alive to all the surroundings, but not of the character that would indicate that there was danger of running away at any instant and endangering life and limb. The genuine roadster is so full of it that the end of the journey is reached at any distance without apparent fatigue, and the reliable trotter cannot have too much of it, if the instinct to trot is strong enough to keep at the required gait.

So much is dependent on the education of our horses that we frequently have difficulty in determining whether the manifested vitality is natural, or acquired from the manner in which the animal is, or has been handled. If it is natural, it will be lasting as a never failing spring of water; but if from bad handling, it will die out, or be manifest in early decay. Too much stress cannot be laid on the character of the nerve force, or motive power. This power may be known by the prominence and brightness of the eye, quick movements of the ears, prompt and elastic movements in gait and action generally, as well as fully alive and ready to all surroundings.

The careful breeders of today are probably paying more attention to the nerve force of their breeding stock than to any other qualification; as so much is dependent on this, for begetting, maturing, developing and maintaining a useful career that it must not be lost sight of.

CONFORMATION.

The brood-mare should have a good deep, capacious body, with plenty of lung room; broad across the loin and deep from loin to flank; strong, short back and long under the belly; a broad, roomy pelvis (rump) to insure easy delivery; a rather slim neck and not too close ribbed (to insure her to be a good milker); a clean cut head, with upright, active ears; prominent, but mild eyes; large, thin, expansive nostrils, and thin, compressed lips; her bones should be of good size for the general makeup of the animal, with smooth, clean cut joints.

Her muscular system should be well developed in every particular; especially the loin, shoulders, quarters, forearms and gaskins. The tendons generally must be of good size, well defined and of the "whip cord" order; remembering always that these will vary with the size and quality of the mare, as well as the type or breed to which she belongs.

CHARACTER OF THE BROOD-MARE.

The character of a brood-mare, both for constitution, soundness, disposition, habits and regular breeder, together with motherly inclinations and a good milker, are essential features that no one versed in the business will overlook.

PEDIGREE.

The pedigree of the brood-mare is of far more importance, than three-fourths of our breeders even imagine. Her blood lines should be carefully investigated, to ascertain if there has been no impure or mongrel

blood introduced into the breeding of her antecedents, that will be a damage in the results to be attained; "as the sins of the fathers shall be visited to the third and fourth generations."

PARALLEL BLOOD LINES.

By parallel blood lines we have reference to those bred in the same general family or of the same type of animals. In other words, adhere as closely to the desirable family characteristics, as is possible for the best results. Cross-breeding must be condemned as impracticable in this age of improvement. We must make as few mistakes as the development of the science of breeding will permit. With all the care we can bestow, there will be more or less culling to be done from time to time, to keep up the standard of excellence that should be desired.

IN-BREEDING.

While we do not strongly advocate in-breeding, we are strongly opposed to cross-breeding. No true type of animals can be maintained by cross-breeding; on the other hand, all types of animals have been made and maintained, by strictly adhering to the best selections of the same family, as is borne out in the investigations of the improvements of our best breeders. If we want draft horses we must adhere to the principle of breeding only typical draft mares to our best draft stallions, road mares to our best trotting stallions; coachers to the type of stallions that will bring us coachers, etc., etc., etc.

HAP-HAZARD BREEDING.

The hap-hazard breeding that has been going on for many years, makes it imperative, that every breeder, making a choice of brood-mares, should use the utmost care in his selections for any class, to prevent getting just what he may be trying to avoid in the offspring he is aiming to produce. Blood and good quality will tell at every breeding, and an undesirable infusion, is possible to give you an amount of trouble, that many years of painstaking will not enable you to eradicate. In breeding stock, individual excellence in connection with the best inherited characters, is, of course, desirable in all cases; but, when it is impossible to secure this combination of qualities, the breeder should not lose sight of the fact that the greatest perfection in the individual, will not compensate for ancestral defects that have been frequently repeated, as the latter will in all probability have a predominant influence upon the offspring.

THE BROOD MARE IN RELATION TO THE STALLION TO BE USED.

After the selection of the brood-mare for the purpose designed, then an equally important choice is the selection of the stallion to which she is to be bred. Remember that absolutely perfect mares or stallions in every particular is the next thing to an impossibility; hence to improve in the offspring, is to select a stallion that is certainly strong in any particular in which the mare may be wanting. If both have weaknesses of

the same character and are bred together, then these weaknesses are too apt to be intensified in the progeny and general degeneracy as a natural result will follow.

Another essential feature that should never be forgotten, is that the weakest point in the brood-mare or stallion is the measure of his or her power, the same as the "weakest link in the chain is the estimate of the strength of the chain." In other words the back cannot do the work of the legs, or vice versa. Consequently the importance of carefully examining both sire and dam for weaknesses before mating. The strong points will take care of themselves as will the dollars, if we take care of the pennies. If the stallion and mare are the counterpart of each other in any natural defects, then you will be acting judiciously to look farther before breeding.

PREPOTENCY.

We wish to be understood by prepotency in the brood-mare, that she possesses the power through her ancestral inheritance, to transmit to her progeny the strong characteristics of her family; and by her being bred to a sire in the same line of breeding, her produce will be of great value in the perpetuation of the qualities of the type; whereas if she is not prepotent, then you have to rely on the power of the sire altogether.

FECUNDITY OF THE BROOD-MARE.

By fecundity we understand that the brood-mare is fruitful, or in other words, she is a regular breeder. And to determine before trial what she is likely to be as a regular producer, it is very essential to inquire into the history of her family. If her dam was a regular breeder and her mother before her, as well as their sires sure foal getters, and if they were, then you are quite safe that she will be profitable.

INHERITED PRE-DISPOSITION.

Inherited pre-disposition to disease or other defects in the brood-mare may not show in herself; if there has been any in her ancestors it is almost certain to be manifest in some of her offspring, without the greatest care is manifest in the selection of the sire to which she is bred.

We must stop with points of selection for fear we shall discourage the young breeder with details; but we must unhesitatingly say that the more experience, observation and study we have, the more we see that it is by no means guess-work. Breeding has become, to a great degree, a science, and the more we conform to the laws of the science, the greater progress we are likely to make. While we feel that we are by no means through with the matters of importance in selection, we must proceed with the care of the brood-mare.

CARE OF THE BROOD-MARE.

The care of the brood-mare for the best results, can be summed up in this: that the highest state of vigor and activity through her whole organization will be mainly what will be required.

But the question will naturally be asked, how can this condition be best acquired? Our answer is: feed regularly good nutritious food of not

a highly carbonaceous character, but sufficient to keep the mare in fair condition, yet by no means fat. Fat is at all times a detriment to vital actions. The food should be generous but should not be given to the degree of gormandizing. Only moderate rations at the proper times should be indulged in. Foods of bone forming constituents can be used liberally to advantage; such as bran, oilmeal in small quantities, and oats with corn and cornfodder, but always in connection with plenty of exercise. Brood-mares should be turned out for exercise every day. Large quantities of innutritious food, such as straw and poor hay, is a detriment to brood-mares heavy in foal.

BEST TIME TO BREED.

Nature almost always indicates the proper time to commence breeding. Frequently, if the weather in this north latitude is warm in March or April, mares are very sure to come in heat; but our experience is that where one mare gets in foal, three or four will fail when bred before the middle of May or June. However, where you are supplied with your own stallion, the breeding might be commenced at any time and continued indefinitely, if very early colts are desired in the spring or late in the fall or even winter. But the chances are so much against the practice, that it will not be successful in the long run to make it a business with public sires. People generally, who have not had much experience, are too apt to lay the failure at the door of the stallion, when the condition of the mare is far more at fault than the stallion.

PECULIAR NOTIONS ABOUT WHEN TO BREED.

There are a great many peculiar notions about the particular stage of the heat to breed; and especially in relation to the sex of the anticipated offspring. We have made many observations in this relation, and have come to this conclusion: that the very best time to breed is when the mare is at the height of the heat. And if at that time, the stallion is in the height of vigor and the mare is somewhat debilitated or fatigued, the prospects are more favorable for colts than fillies, and vice versa. Still, you must not construe the manifestation of vigor to a sprightly action alone. The one recovering the most rapidly from fatigue, has the advantage in controlling the sex. Stallions kept at active exercise, but not to the point of fatigue will get a majority of horse colts; and those given but a limited amount of exercise are generally apt to get more fillies than colts, if the mares are strong and vigorous. But there are so many varying conditions that even this cannot be relied upon.

CONDITION OF THE MARE WHEN BRED.

Probably the most important consideration at the breeding time, is to know that your mares are in a healthy state, in relation to their generative organs.

Mares that have worked hard and been exposed to inclement weather through the winter, are often troubled with leucorrhea or whites, known by a copious discharge from the parts; frequently taken for the height of the heat. This is a tenacious mucous that will act as a hindrance

rather than an aid to impregnation, and it will be of no advantage to breed the mare although she is in heat.

Mares troubled this way, will remain in heat much longer than those in a healthy condition. The disease acts as a local irritant and keeps up the excitement. The treatment of this difficulty, consists in cleansing the parts by a thorough syringing with warm water and best English castile soap, and then follow with an injection of an infusion of Witch Hazel leaves (Hamamelis), a half an ounce of leaves to a quart of boiling water; let stand, covered, until only blood warm, then use with a syringe as before. This cleansing process should be continued daily until the mare is well, when she may be bred with success.

EARLY GRASS NATURE'S RENOVATOR OF THE SYSTEM.

Early grass is Nature's great renovator of the system, and for this reason, mares are more certain to conceive after grass comes than before. Many advocate fall breeding, but there is where the difficulty comes in; if the mare's generative organs are healthy, it is all right; but too many are badly debilitated from a hard summer's work, to make it anything like a sure business generally.

EXAMINATION OF WOMB.

If mares are kept fat during the winter, it is important to make an examination, to ascertain that the mouth of the womb is open; and if closed (which fat often does) it should be gently dilated before she is bred, or there is little or no use of the service. The fingers coated with belladonna ointment will serve to aid in the dilitation. Some use the soft rubber impregnitator, which remains in place during copulation (service) and aids the seed in being carried to the proper place.

TRYING THE MARE.

There is but little trouble in determining when the mare is at the proper stage of the heat for successful breeding; she will plainly indicate it without the excessive teasing and annoyance usually gone through with. No doubt many of the irritable dispositions of our horses could be traced to the terrible ordeal their dams went through with at the teasing rack. Don't allow your mares to be "chewed up" at the "try pole." Take them to some other horse, rather than have them seriously annoyed by a stallion in the hands of thoughtless or careless grooms. You are laying the foundation for future generations of horses and it behooves you to have nothing interfere with the successful beginning. As little excitement with both mare and stallion before and at time of service, we believe to be the best for the progeny. If the mare can be left for a time in sight and hearing of the stallion, it is preferable, if she is naturally nervous.

RETURNING THE MARE FOR TRIAL.

If the mare was bred at the proper time, she should be returned in twenty-one days, and if she then refuses, don't tease her, but return in

one week, then the second week, and so on, till the fourth or fifth week, and if she still refuses she is almost certainly in foal.

TREATMENT OF THE MARE WHILE IN FOAL.

The mare in foal should have daily exercise, but not of too exhaustive a character, nor too sudden and rapid. If a draft mare, she should not be pulled too hard, and if a trotter, she should not be trotted too far or very fast, after the middle of the term of utero-gestation. But regular exercise is absolutely essential for the best results.

FOOD FOR THE MARE IN FOAL.

The best food for the mare in foal is bone and muscle making food, such as oats, bran, some corn, a little oil-meal cake and carrots; corn fodder and good hay in small quantities. Concentrated food is the best where there is tendency to relaxation of the bowels. A large quantity of feed given at any time in connection with vigorous exercise, is liable to bring on a miscarriage; oats or flax straw in large quantities may produce diarrhoea, and abortion follow. Regular exercise and good nourishing food in moderate quantities, is always the sure road to success with the mare in foal.

PERIOD OF UTERO-GESTATION.

The mare usually carries her foal about eleven months; but the time will vary so greatly sometimes, as to give room for doubt of all being right with the mare or her foal, yet when we know that the time may be shortened even five weeks, or extended six weeks, it is not best to enter into special interference without there is evident trouble with the mare. Large and slow maturing mares are more liable to carry the foal longer than the close built mares of early maturity; yet this may vary in either case from the character of the food or from some accident that will bring on foaling sooner than otherwise.

TIME OF FOALING.

At the time of foaling, the mare should have all her surroundings as quiet and as comfortable as your circumstances will at all permit.

If the weather is warm and pleasant the paddock or field is the best place; otherwise a good roomy box stall will do very well, in which case it will pay well to keep a close watch of her movements, and as soon as you find that she is in pain, you should stay with her until the foal is on its feet and taking its nourishment properly.

Don't be officious and try to hurry matters along before there is good and sufficient reason for your interference. Many a good mare and foal has been destroyed by what is called scientific delivery, an officious interference. Nature will do her work well, if you have done yours properly in the feed and care of the mare beforehand. Sometimes the foal may be so large and the mare's pelvis so small, that the labor may be prolonged until the mare is very much exhausted, when your help may be a great advantage, both in assistance in delivery and in sustaining the mare afterwards.

When the head and front feet have appeared and the shoulders remain a long time, with hard trials and sufficient intervals for rest, then, and not until then, will it be prudent to render your assistance, which will be by taking hold of the legs and pulling, only, when the mare makes an effort at expulsion.

If the mare has had a hard labor, she may be so prostrated that she will be unable to rise after foaling, in which case it will be of great advantage (and may save the life of your mare) to have ready some warm oatmeal gruel (very thin) to give her from a pail or bottle.

WRONG PRESENTATIONS.

Whenever other than the natural presentations are present (which are very unusual) you should lose no time in securing the best veterinary skill that you can get, before it is too late. Whatever you do, don't go at the mare as though you expected to get the foal away in a minute. Remember that you are dealing with muscular and serous tissues, as well as nerves in a highly wrought state, and it is necessary to move deliberately and cautiously, for the success of both dam and foal.

AFTER FOALING.

The mare should be watched carefully to see that she is kept warm enough, as a chill may be the cause of serious difficulties that will require great skill to recover from. Her food should be of the laxative character, and only given in very moderate quantities for several days, when it may be increased as the foal becomes strong enough to take and digest it well. Many mares are inordinately thirsty after foaling, and if indulged to their satisfaction, both dam and foal are apt to get into trouble. If she drinks large quantities of cold water it is liable to derange her digestion, and the foal will have diarrhea; when as a rule, the majority of people begin dosing the foal, whereas, if the attention is given to the mare, in the reduction of the water drank one-half, and a reduced ration of food, the mare and foal both will soon be well, without any medicine whatever. As soon as the mare is strong enough and the weather will permit, both she and her foal should have plenty of exercise daily, and if her food is in proper quantity and quality, both mare and foal will do well until weaning time, when the colt will be treated under a separate chapter.

We have dwelt at apparent length in some particulars in this article, but, we fully realize that the horse business is daily improving and we must make the best of it, if we meet the sharp competition of the future on an equal basis with the foremost breeders of the land. Generalities are good for general observation, but when we wish to fathom the depths of any business, we must then go into the details.

CARE OF THE YOUNG FOAL.

After the foal is up and around it should have a free operation of the bowels. If it should not you will notice that it is uneasy; it will switch its tail, draw up at the flanks, breath short and strain more or less. It is time now to prepare an injection of slippery elm water, flax seed water

or even castile soap suds and inject it into the bowels freely, until the large bowels are emptied; to be repeated if found necessary. But don't resort to physic, without you are compelled to. Better depend on laxative food for the dam, than to derange the stomach of the little fellow by medicines that irritate.

If the mare refuses to own her foal she should be tied both ways in her box stall and shackled all around.

CHAPTER XII.

HEREDITARY TRAITS IN HORSES.

Hereditary entailment is not confined to deformity. It is now certain that all defects are transmissible, and that accidental deformities frequently become perpetuated in the progeny. But it is not alone physical deformity that may be entailed. Habits, peculiarities of temper and behavior, and many singularities are transmitted with unerring certainty.

MARE WEAVING IN HER STALL.

A well-known mare had a habit of weaving,—swaying her head back and forth in her stall,—and at the same time raising one foot and then the other about an inch from the ground. She had three colts, and the habit was transmitted to each.

MARE NEVER KNOWN TO LIE DOWN IN HER STALL.

A mare that was never known to lie down. This mare, for thirteen years, was never seen off her feet except to roll, and she foaled a filly which inherited the same peculiarity.

MARE THAT WAS BOSS OF THE YARD.

The mare that takes her own part in the field and bosses the yard, will, in all probability, produce a foal that will be equally domineering.

MARE THAT WOULD NOT STEP OVER AN OBSTRUCTION.

We know of a mare that will not step over an obstruction a foot high, and the bars must all be let down to the bottom before she will leave the field, and one out of five of her produce evince the same disposition.

HABIT OF SCRAPING BACK THE BEDDING.

The habit of scraping the bedding back, and piling it up in the rear of the stall, is certainly hereditary.

MARE THAT COULD NOT BE TURNED OUT TO PASTURE.

A friend has a mare that cannot be turned out to pasture because of her propensity to jump fences. A filly out of this mare has developed this same propensity in a marked degree.

A STALLION THAT HELD UP ONE FOOT WHILE EATING HIS GRAIN.

A prominent sire that we knew very well had the habit of holding one front foot off the floor while eating his oats, and this habit was transmitted to many of his offspring.

A STALLION THAT WAS VERY DAINTY ABOUT HIS DRINKING WATER.

A sire that was very dainty about the drinking water offered him, produced the same characteristic in his progeny, while another, that drank very rapidly and unhesitatingly, transmitted a similar disposition to many of his get.

THE OLD MARE THAT WAS HANDY ABOUT OPENING DOORS OR GATES.

The old mare that could open the stable door, get into the grain bin, etc., is very apt to impart a similar disposition to some of her descendants.

HEREDITY OF GAIT IS NOT ALWAYS TRANSMISSABLE UNIFORMLY.

A few trotting sires or trotting dams produce speed uniformly, but the trotting instinct, and the disposition to do nothing but trot, is not so strongly hereditary in a large proportion of the progeny that the absence forms the exception to the rule.

LOOK OUT FOR HEREDITARY TRANSMISSION OF OBJECTIONABLE FEATURES.

The heredity of straight pasterns, small knees and hocks, tied in below the knee and hock; toeing out, toeing in, interfering, too high or too low gaited, and, in fact, everything or anything that is not desirable, must be observed and avoided, because the law of heredity is bound to be manifest for good or evil, and it is our place to avoid the bad and preserve the good characteristics of our horses.

The whole problem of heredity presents the most interesting phenomena. The lessons that are being learned from the wonders it presents in the material universe are of incalculable value to the scientific breeder. To him heredity has a wide significance. He takes advantage of the hereditary tendencies toward good qualities, and works from those that bring bad forms and compromising progeny.

CHAPTER XIII.

THE NUMBER AND VALUATION OF THE HORSES OF THE UNITED STATES.

The highest number ever reached by our horses was in 1893, when they counted up to 16,206,802, and were valued at $61.22 per head.

The highest valuation ever placed upon our horses was in 1884, when it was put at $74.64 per head, and then they numbered 11,169,683.

The lowest valuation ever placed upon our horses was in 1897, when it was $31.51 per head, and they numbered 14,364,667.

The total valuation of our horses in 1892 was $1,007,593,636, and five years later, in 1897, the valuation had fallen off $554,944,240, over half a billion dollars. Is it any wonder that we thought the bottom had fallen out of the horse business? While we have gained $58,425,417 in valuation in the last two years, on a losing basis of 699,360 horses, if we had only held our own in numbers, the increased total valuation, instead of the amount just mentioned, would have been $84,564,387, showing that we are getting back to the old standard of prices as rapidly as we can reasonably expect.

ENCOURAGEMENT TO THE BREEDERS OF THE PRESENT.

If the above is not encouraging to the farmers who have good brood mares, I am frank to confess I do not know what would stimulate them to action.

The greatest point with the breeders (and they are the farmers) of today is, that they must see to it that they exercise more care in the selections of breeding stock. The standard of size, quality, symmetry and action is getting higher and higher, and to be "in it" you must be "in it" for all there is "in it."

Foreign countries are now looking to America for their war horses as well as drivers and drafters, and there is every indication that we will be unable to supply their demands over and above the requirements of our own country, notwithstanding the great laudation of the automobile to the displacement of the noble, faithful and reliable equine race.

CHAPTER XIV.

FARMERS AS HORSE BREEDERS.

We want the farmers who have good brood mares to fully understand that the future promises a greater demand for horses of high quality, in any of the established types, than for many years, notwithstanding the trolley cars, automobiles, bicycles, etc. The decrease in the number of horses in the United States was nearly 300,000 head within the past year, yet the total valuation (even with this heavy loss) has increased $32,712,417, regardless of the hue and cry by the newspaper writers that "the horseless age is upon us."

FARMERS BREED AND RAISE NEARLY ALL THE HORSES OF THE COUNTRY.

Now, don't forget that the very large majority of all our horses are bred and raised by farmers. Then should not all the farmers who have brood mares of high quality fully understand the true situation? It is from the best brood mares that we must expect to get the character of horses demanded by the buyers. Unless we have brood mares of good quality, we will fall far short of our expectation in the produce, no matter how much quality is possessed by the sire.

THE STALLION CONSIDERED HALF THE HERD.

While it is a trueism that should never be forgotten, that the sire is half the herd, and we must look to him to make improvements in conformation to a great degree, it is also as important that the brood mare possess the quality, stamina, nerve force, endurance and intelligence necessary to enable her to transmit these essential characteristics to her produce.

MIXING OF BREEDS IS FOLLOWED WITH DISASTROUS RESULTS.

There is another thing the horse-breeeding farmer should clearly understand, and that is, we can never mix our several breeds and types of horses in the breeding relation without great danger of losing some of the best qualities possessed by sire or dam, whereas when we adhere to the same class, our chances are much better for improvement. When we cross-breeed we often lose the identity of both breeds, and the mixture in the offspring (if a filly) will require several generations to eradicate by the most careful methods.

THE FARM HORSE.

Besides raising horses for market, it will be wise for breeders to consider the right kind of horse to raise for the farmer. There are hundreds of thousands of horses used on the farms of this country, and this number must be renewed in part every year. The farmer is really the greatest factor in the horse market today, and a little consideration of his needs is necessary.

ACTIVITY AND PROMPTNESS ESSENTIAL IN THE FARM HORSE.

Strength is not the sole requisite in a farm horse. The true farmer's horse is one equally serviceable in pulling the plow or trotting to market with a light wagon. The farm horse should thus be a medium between the draft and road horse, and may be of the light draft stock or of the heavier of the road types. Courage, determination, and quickness in taking hold of loads are very important qualities in this kind of horse. Animals weighing 1,100 pounds, with these qualities, will often be more serviceable than the team that weighs hundreds of pounds more. A quick, steady walker is very essential. Did you ever stop to compute how many days' work you could save in plowing a field with a quick walking team as compared with a slow one? The team that gets over the ground rapidly saves time and money to the owner.

Farm horses should have good lung power and good feet and legs for the farm. The farmer who attempts to raise colts for his own use should be careful to select good breeders, that will produce progeny of the desired type. Very often the farmer can raise his own horses better than some professional breeder.

DRAFT HORSES FOR THE FARMER.

The advantages to the farmer in breeding draft horses is that they require less care in handling and training, because they are not so hot blooded as the carriage and road horses generally, and will therefore go to market with less preparation. Then, again, slight injuries from wire fences and trifling blemishes through accidents, reduce the market value less than in the more highly finished types. The demand for the production of horses of first quality of all types is slowly but surely improving, and every farmer who has brood mares tending towards the draft type, should not fail to select the best draft stallions obtainable to breed to. It costs no more to raise a well-formed, muscular, strongly-constituted horse than a nondescript, weakling good-for-nothing.

VALUE OF THE HORSE IN HIS MOVING POWER.

The intrinsic value of our horses is in their moving power, and, as a consequence, the horse is valueless when standing still; therefore, the closest attention should be given to producing animals with the best of feet and legs. Associate with these a good digestive organization, with

strong muscular development, and we have greatly improved the working value of our horses,—and this is the end sought by the breeder, feeder and handler.

THE UNDERSIZED, DEFECTIVE DRAFT SIRES GELDED.

Keep the matter of soundness, size, symmetry, quality, perfection and disposition constantly in mind, and pass the ill-formed, blemished, undersized stallions by, never using any of them, and they will soon be gelded and set to menial labor, and the country will be thousands upon thousands of dollars richer; but if we continue to use them as sires, we will be growing poorer every year.

SIZE OF THE DRAFT BROOD-MARE VERY IMPORTANT.

To get size in what we produce, we must have large, roomy brood mares, and we should give as much attention to soundness and quality in the brood mare as in the stallion. We must conform to the great natural law of "like begetting like" if we ever make the desired improvement. If it is size we want, this should be carefully observed in both sire and dam. Add quality, symmetry, constitution and disposition to both, and we will make great improvement but disregard all these, and then we are sure to conclude horse-raising don't pay. We should study this question more thoroughly, and then we will have greater success and fewer failures.

CHAPTER XV.

INTELLIGENCE OF THE HORSE.

A great deal has been said and written about the intelligence of animals, and almost all agree that dogs, monkeys and elephants are highly endowed; but some believe the horse is about the dumbest of all animals.

EDUCATION OF THE HORSE VERY IMPORTANT IN RELATION TO HIS WORK.

The great reason for believing the horse a dumb brute is that educators have had the least patience with the horse, owing to the fact that an iron bit is used in his mouth, and he is by this means forced to do his master's will, without understanding just what is desired of him. The difference in the manifestations of intelligence is due more to the educator than the animal to be educated.

WONDERFUL MEMORY OF THE HORSE.

There is certainly one point decidedly in favor of the horse in respect to his education, and that is, that whatever he learns and understands he never forgets; and this cannot be truthfully said of all men. Horses, like people, have strong likes and dislikes, and where one educator succeeds, another will fail. It is all in the horse and man thoroughly understanding, or not understanding, each other, and by mutual consent being friends or enemies.

VALUE OF SUGAR FOR THE NERVOUS WILD HORSE.

That through the medium of the stomach is the surest road to the affections of the horse, there can be no question, when associated with otherwise kind treatment. Sugar being a little sweeter than the dam's milk, man may, by the use of this tempting morsel, divert the affections of the young colt from its dam to himself, and thereby make a lasting and faithful friend of the horse when matured. We know of no other one thing that has so much to do in gaining the attention and good will of the nervous wild horse as small quantities of sugar, fed from the hand of man, in the spirit of kindness and affection. By this treatment and education, the valuable and trusty animal is made; and the reverse treatment makes him unreliable and dangerous.

THE HORSE AND HIS INSTRUCTOR SHOULD UNDERSTAND EACH OTHER.

The earlier we begin the education of our horses, the more valuable servants they make, and the more money they will bring in the market.

The horse appreciates kind, intelligent treatment as well as man, and when the horse and his tutor fully understand each other, it is astonishing how rapidly the horse acquires his education.

The domestication and education of the horse was undoubtedly first practiced in Asia, next in Europe and Africa, and afterwards in America, Australia and New Zealand. Even among the natives of the latter country, they practice one of the most humane and absolutely safe methods (though very crude) in training and quieting the wild horse than probably any others in the world, appealing wholly to horse sense and familiarity.

A HORSE THAT REGULATES HIS OWN HOUSEHOLD.

My attention was recently called to a case of almost human intelligence in a horse. The animal is Trusty Gun, owned by Mr. G. L. Harmon, Machias, Maine. He is a dark bay gelding, 15.1 hands, and weighs 1,050 pounds. He was sired by Parker Gun, a son of Jay Bird, by George Wilkes. His dam was Aunt Rhoda, by Trusty Boy, son of Mambrino Patchen.

When very young this horse showed rare intelligence, and now some of his regular habits are little less than marvelous. He has been furnished two box stalls, one adjoining the other, and connected with a door. One of these rooms has its floor covered with about four inches of mill sawdust, and is used by the animal as a bedroom. The sawdust is renewed but twice a year, and only then because of the dust that is brought in on the colt's feet.

"The room adjoining this sleeping-room is used as a living-room. In one corner is an iron feed dish, below which is a crib for hay. Another corner is used by the horse for his excraments. At one side of the room is a box, 20x30 inches, which is used as a urinal, and never since this box was built has the horse used any other part of the room for this purpose. The box is kept filled with sawdust, which is renewed often. The blanket which the colt wore was spotless, and not so much as a stain has ever found its way to either cover or horse.

THE STOLEN HORSE KNEW HOW TO OPEN HIS STABLE DOOR.

A gentleman in Vermont had a favorite Morgan horse stolen, and four years after, he saw, in his native town, a horse that he thought was the one he had lost, and told the man so who had him, but the man ascured him that he came rightfully by the horse and had paid his hard earned cash for him, and was not willing to hear of another's claim to his favorite animal. The man who had lost the horse said: If you will drive up in the alley back of my barn, and let the horse have his own way, and if he does not go straight to my stable door, pull out the wooden pin that fastens the door, push the door open and go directly to the third stall from the end of the barn and take his place there, I will feel certain that he is not mine, but if he does, then you should be convinced that he has been there before by his own efforts. The man who had

the horse thought the offer a fair one and agreed to do so. When the horse was unhitched and left to go his own way he went straight to the stable door, pulled out the pin, pushed open the door and took his place in the third stall, as predicted by his former owner. The man said, that is a very clever feat, and shows that the horse must have been here before, but it is not sufficient proof that you are the present lawful owner. When the neighbors all testified that the horse had been stolen from the owner of the place, and that they felt sure that the horse was the same, the man very reluctantly gave up the ownership, even though he said he would rather part with $250.

A HORSE THAT KNEW BUSINESS FROM PLEASURE.

James P. Barton, Scranton, Pa., owns Kittie D., a great granddaughter of Hambletonian 10. He says: "I use the mare for light driving, also for delivery purposes, and she will not miss one of my two hundred or more customers without a word from me. I can take her from the delivery wagon and hitch her to my road rig, and if she offers to stop at a single one of my customers, I will make any one a present of her."

A HORSE THAT FULLY APPRECIATED HIS PRESERVER.

"An incident which showed intelligence in a most emphatic manner occurred at the recent big fire at Waukegan, Ill. It has been related how George Sells rescued his horse at great peril to himself, but it was not stated how the animal appreciated its master's services. After entering the burning barn, Mr. Sells merely untied the horse. Exhibiting little or no excitement, the animal stuck its head over its master's shoulder, gently rubbing its head against his face. Mr. Sells walked out hurriedly and the horse followed meekly after him, retaining the position mentioned. Mr. Sells tied the horse to a fence and was standing watching the progress of the fire, when suddenly he felt something rub against his face, and, looking up, there stood his horse again gently and affectionately rubbing its head against his cheek, as if to express its appreciation of its master's rescuing it from the flames. The dumb brute had broken the halter with which it had been tied in order to walk to its master's side to further express its feelings. Mr. Sells led the animal away and tied it again, but with a whinney, it endeavored to persuade him not to leave it alone."

A LAME HORSE THAT KNEW WHERE TO GO FOR RELIEF.

A horse, after having been shod at a certain shop, went lame, and the next day, as soon as his owner turned him lose, the horse immediately went to the shop where he had been shod and took his place on the floor where the shoe had been nailed on. While the smith thought strange of the horse doing so, he drove him out of the shop with a slap, and as the horse limped off he thought no more of the incident. The next day the horse was still worse, and the owner turned him out of the stable as before, and he went straight to the shop again, took his position on the floor, and held his lame foot up, when the smith took off the

shoe and found that one nail had split, and a portion had entered the sensative tissue. This gave relief and the horse went away and did not return.

A HORSE THAT KNEW HE WANTED TO BE SHOD.

A large gray horse belonging to J. W. Watkins, known as Old Sam, visited the blacksmith shop so often that he was led out two or three times during the day. Sunday morning early he took his stand in front of the shop, and there he remained all day in the hot sun, never leaving except when led away by his owner. Monday evening, as soon as unhitched, he left his feed, which had been placed in the wagon box, and again took up his stand in front of the blacksmith shop. By this time a considerable crowd had gathered at Webster's store, and it was suggested that Old Sam wanted shoeing. The blacksmith was sent for, and on opening the shop door Old Sam walked in and stood perfectly still, without bridle or any one holding him while the shoes were being nailed on. As soon as the job was completed he went back to his feed and has not visited the shop since.

A HORSE THAT KNEW HOW TO AID HIS MASTER IN TROUBLE.

A Norwegian farmer fell from his horse, and being severely hurt by the fall, and unable to extricate his foot from the stirrup, he was almost helpless. The horse tried to raise his master by laying hold of the brim of his hat, but, the hat coming off, this attempt failed. The horse then "laid hold of the collar of his coat, and raised him by it so far from the ground that he was enabled to draw his foot out of the stirrup. After resting awhile he regained the saddle and reached his home."

A HORSE THAT REALIZED THE CONDITION OF HIS MASTER.

A friend of the author, and one who can be relied on for the truth of his statement, was away from home on a Christmas evening on horseback (with his favorite horse) to a supper on the frontier, and got the worse for the sparkling beverages provided liberally for the guests. When he decided to go home (against the earnest solicitations of his friends), he had to be assisted on his horse, but when mounted he and his friends thought all would result favorably. But when within about half a mile of home and his horse was feeling a little playful (not realizing his master's comparative helplessness) roached up his back and kicked up, and his master went over his head, sprawling in the road. The jar from the fall and his condition rendered him immovable for the time being; but the horse stopped suddenly and seemed to wonder what had happened. He began very cautiously to nose his master's whiskers, and then rub his lips over the face of his prostrate human friend, when the man partially rolled over on his side. The horse viewed the situation for a few minutes, and then taking the man's overcoat at the collar (as well as the underclothing) carefully in his teeth, he raised the man on his feet and held him there until his master had got a firm hold with

both hands into the heavy flowing mane, and then the horse began moving slowly towards home, supporting and half carrying his human companion to his own door. This portion of the trip involved the crossing of the Musselshell river, in Montana, on the ice, which was done with the greatest care.

AN EQUINE COON HUNTER.

Miner Yocumb, of Westphalia, Ind., has a bay mare that has developed a strange propensity for an animal of the equine species. She hunts 'coons. The mare can "tree" a 'coon as well as the best trained 'coon dog. She can track one by scent alone as accurately and as truly as a hound. When the animal trees a raccoon she will neigh and paw around the tree until Mr. Yocumb arrives to capture the 'coon. When going through the woods the mare will stop and smell a tree, and if there is a 'coon in it she will neigh until assistance comes. Mr. Yocumb often rides out on his "'coon mare," and never fails to return with two or three 'coons strapped across the back of his saddle. The mare seems to delight in hunting. When she strikes a train she will drop her nose down to the ground and start off at a dog-trot. When approaching the game she pricks up her ears and shows by her frisking that she is nearing a 'coon. Mr. Yocumb would not part with the mare at any price.

As this Hoosier story is so far out of the usual sphere of the horse, it will be looked upon with doubt, but it is certainly not beyond the capacity of some of the equine race, and Mr. Yocumb's friends assure me that it is all true.

We could cite many more instances to demonstrate the intelligence of the horse, but we feel that every one who is associated with this greatest of man's animal friends, has observed enough to know, that those who treat their horses the kindest and try to teach them what their duties are without fighting them, are well convinced of what we are trying to impress on their minds.

CHAPTER XVI.

HORSE EDUCATION.

More than fifty years' experience in handling, training, breeding and care of horses, should entitle one to an opinion as well as a knowledge of the intelligence and susceptability of the horse to a useful education, notwithstanding many people contend that the horse is about the least capable of our domestic animals.

HORSES ARE NATURALLY TIMID AND SENSATIVE.

The timidity and natural fear of the horse is no doubt the result of environment, and he has from time long past depended on flight rather than battle to avoid his enemies.

THE HORSE A SLAVE TO HUMANITY.

The horse from time immemorial has been hunted, captured and forced into servitude for the convenience of man. While the flesh of many other animals has been used as food; the horse has had to serve out a life of drudgery, torture and humility, until death relieved him from human bondage.

THE HORSE CONSIDERED ONLY A BRUTE.

Far too many of the horse's captors, owners and drivers have considered him only a "brute" to be yanked, kicked, pounded and neglected to man's passion, indifference and sometimes pleasure.

THE HORSE NATURALLY SUBMISSIVE.

Were it not for the fact that the horse is naturally submissive, when dealt with in accordance with the laws of his organization, he would resent the punishment, scorn the indignities of being tied up by the head, and exposed to the cold blasts of winter to a hitching post without a blanket, while his master was enjoying the comforts of a fire and the companionship of friends, as well as many other sufferings that he is subjected to, by thoughtless, indifferent, careless or cruel hands.

LAWS OF THE HORSE'S ACTIONS NOT WELL UNDERSTOOD.

Many books on training have been printed, many horse trainers have traveled the country over, and many devices have been used to take advantage of the horse's muscular strength, with the sole idea of subduing, conquering, overpowering and punishment. But the true principles and natural laws that govern the horse's actions for easy and natural com-

pliance with the wishes of man, have been ignored, unknown, or misunderstood. And in too many instances the very means that were intended to aid in the management of the horse, have proved added tortures to him, from a non-compliance of the natural laws governing the actions of the horse. Nearly all the bad actions of our horses are the results of misplaced confidence, confusion and a misunderstanding of his nature, abuse from his handler or trying to force him to do what he does not understand. We should always work according to the laws governing the horse's actions and above all, be sure the horse fully understands what we want him to do, and at the same time treat him with the utmost kindness, then he will appreciate what we do for him and in turn, do for us all he is capable of without complaint.

THE HORSE IS ENDOWED WITH INTELLIGENCE AND PASSIONS.

If we are not willing to grant that the horse is capable of great intelligence, we are sure that he is endowed with much the same passions that we are, and when both man and horse get angry at the same time, resentment, destruction and revenge are often manifest, and as the horse has a very retentive memory, he is often made a dangerous animal, where he might have been a docile and useful friend.

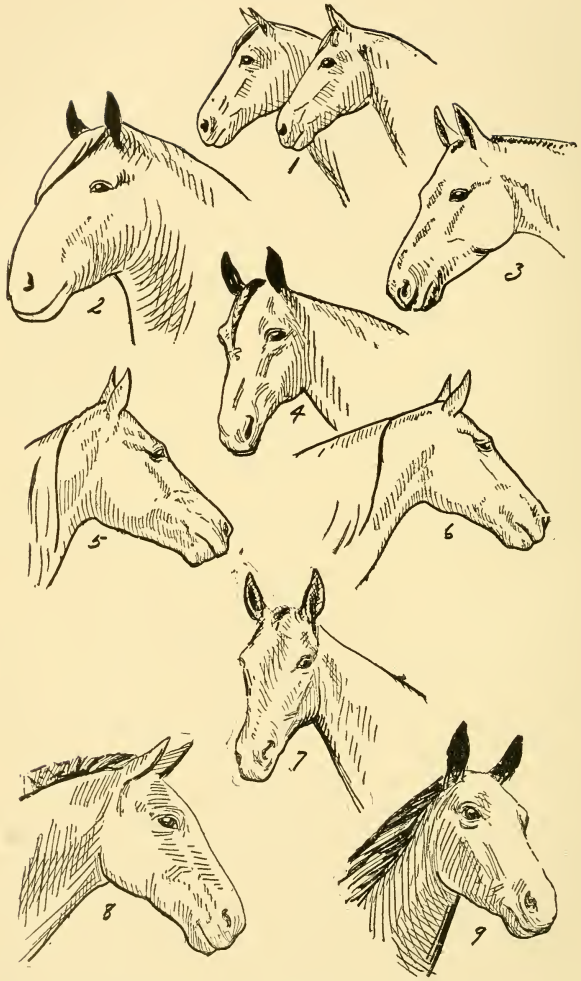
USEFUL EVERY-DAY LESSONS RATHER THAN TRICKS.

It should be our duty in the education of the horse to confine ourselves to the every-day practical lessons, which will make him more useful in his duties, rather than to educate him to such tricks as only show his degree of intelligence, which are seen at the circus and other exhibitions.

The capabilities of the horse for a useful education is greatly dependent on the size, quality and development of the brain, the same as with man.

It is the universal practice everywhere to look at the head and face of man to form any idea of his character, and while but few are experts in reading human character, everybody intuitively forms their opinions, from this portion of the human anatomy instead of some other, and there is no question but the horse's head and face is as good an index to his character as that of man to the human family.

The page cut No. 27, of heads of horses is something of a study for the reader, from the performances of the horses and their reputation. While they show in some respects many points of resemblance, there are others of striking differences. Fig. 1 at the top, represents the heads of President McKinley's favorite carriage team, Defiance and Selim, the latter on the off side. They are 16¼ hands high, both chestnut, strip in faces, right front and both hind feet white; very stylish and tractable and can be rode at a 2:40 clip, and said to be the most beautiful and stylish pair ever owned at the White House. They were bred by Geo. Warren & Sons, Laurel Hill stock farm, Fox Lake, Wis. They are six years old, and descendents of the fine Arab stallion, Linden Tree, presented to



Cut No. 27.
REPRESENTATIVE HEADS OF HORSES.

President Grant, by the Sultan of Turkey, while on his trip around the world. These heads are models in outline and should be studied. Length from base of ears to eyes shows brain power. Fig. 2 is that of Merchaison, a Clydesdale stallion, and fig. 3, of Guy, the famous pacer, record 2:06¼. These should be studied in contrast, as both were unwieldy to the rein, both heavy headed, but very different. Figs. 4, 5 and 6 should be studied together as they are all noted horses and have a national reputation. All good heads, but somewhat different in some respects. Fig. 4, John R. Gentry, record, pacing 2:00½ is a splendid business head and with proper treatment is very reliable in character. Fig. 5, Robt. J., pacing record 2:01½, shows a cheerful active brain and naturally playful. Fig. 6, is a model outline, shows great brain power, determination, courage and fidelity to his human master when well treated. Fig. 7, Flying Gib, pacing record of 2:04, shows a nervous organization, and while intelligent, is naturally eratic, and when pressed too hard, becomes treacherous and very unreliable. Fig. 8 is Fred, a very intelligent horse belonging to a friend. He has a wonderful memory, and while he is timid, he is pleasant, affectionate and always cheerful. Fig. 9, McDonald, mare, playful, kind, cheerful, quick and active. The face line should be nearly straight, and wide between the eyes. Roman nose and "dish-faced" horses are generally objectionable.

EXTENT OF THE HORSE'S CAPACITY FOR LEARNING.

Dr. Key has gone so far with his horse Jim Key as to teach him the entire alphabet as well as many other things, which is still more convincing that horses only want to know what we desire of them and they are ready and willing to comply with our wishes.

FIDELITY OF THE HORSE TO HIS MASTER.

There are many instances on record to prove the fidelity, interest and patience horses have for those who have treated them kindly. There are also many others to demonstrate that the horse distinctively remembers the many wrongs he has suffered from his master and when the opportunity offers he seeks revenge.

We remember well an old man (when we were mere boys) who would go to town and imbibe so freely that he was unable to mount his favorite mare, but when assisted to get on her back, the old mare would take great pains in trying to keep him in position, by weaving back and forth to keep under her master as he got out of balance, and if he chanced to suddenly get so far over to one side that she could not save him and he fell off, she would stay with him until some one came along to get him on her back again, when she would try again to get him home. The old man often said his mare was the most faithful friend he had and she should be well cared for, as long as he lived. Within the last few months a friend who had what was thought to be a very high lifed and dangerous horse, insisted on going home, a distance of about six miles when it was very dark, was found dead the next morning by the roadside where the buggy had upset and killed him; but this spirited horse

still stood there and had not moved from the place where the accident had happened.

REMEMBRANCE OF WRONGS STORED UP BY THE HORSE.

David Harum said "Ev'ry hoss c'n do a thing better 'n' spryer if he's been broke to it as a colt." We perfectly agree with David and wish to impress this fact on every one who raises horses. The early impressions of the right character made on the colt are of the first importance, and all of those of a bad character are equally dangerous; for whatever the colt learns either good or bad will be distinctly remembered. He never forgets.

CONSIDERATION FOR RIGHT TREATMENT OF OUR HORSES.

We cannot be too careful to do the right things with the colt and as carefully avoid everything that is not for the best. Kindness and dainty morsels fed from the hand, together with the means of control, are the surest and safest methods.

UNDERLYING PRINCIPLES MUST BE UNDERSTOOD.

We must first understand the underlying principles or natural laws governing the actions of our animals. If the horse is secure at one end of the body only he is sure to go in the opposite direction for relief. Fasten him at the front end of the body and he naturally goes backwards to free himself. If fastened at the rear end only, he as naturally goes forwards to get away from the object of attack. These natural laws are instinctively and constantly complied with in the actions of our horses, and whatever we have to do with them, must be in accordance with these laws, if we desire safe, reliable and enduring animals.

HOW TO CATCH THE YOUNG FOAL AND MAKE NO MISTAKE.

The first act on our part towards the young foal is to catch it and hold it without hurting it in any way. And we must not forget the law by which it will be influenced in its action. Instead of catching it around the neck and make it run backwards, as it naturally will and as naturally go forwards if we catch it at the rear end; then does it not as naturally follow, to make a success of catching the little colt, we should catch it at both ends at the same time? By putting one hand under its neck at the chest and the other back of its hams or catch it by the tail, we can hold the little thing without difficulty—can at the age of an hour or day old even lift it off the ground. In catching it in this way, it will try to go forwards when we press the hardest at the rear end and backwards when we make the greatest pressure at the front end.

HOW THE YOUNG COLT SHOULD BE HANDLED.

As soon as the colt gets quiet, which it will as soon as we have demonstrated our superior power without giving it pain, then we should begin making ourselves acquainted with every part of its body; by

handling its legs, bring our hands in contact with every part of its body with the utmost gentleness. About the ears, back of the fore legs and at the flank, it is specially sensative; but if handled carefully for one or two minutes it becomes accustomed to the touch and does not mind it.

SHOW THE YOUNG FOAL THAT WE ARE AS GOOD A FRIEND AS ITS MOTHER.

While the colt will recognize our superior power—as among them the stronger rule, the weaker—we must, before leaving the little fellow, show it that notwithstanding we have caught it and held it, handled it all over without giving it pain, yet we are as good friends to it as its dam, and this we must demonstrate, by taking a little granulated sugar in the palm of the hand and press it between the colt's lips, by passing the hand across its mouth and take the hand away, when its tongue will come in contact with the sugar, which is a little sweeter than the dam's milk. Repeat this several times until the colt realizes where the sweet comes from, and the remainder is easy.

Everything that loving kindness and ingenuity can devise should be done to impress upon the colt's mind thus early in life, that man is his natural protector and friend, between whom intimate companionship has been ordained by beneficent nature, which insures that he shall be protected and cherished while he serves. Ah, me! if all colts could have such treatment, how few vicious horses we should see, and how much greater in the aggregate, would be the happiness which life would bring to them and man. The Arab regards the colt as one of his household, next in rank and importance to his children. His food and often his bed is shared with his horses, and the very young things are always treated with the utmost kindness and affection; and such things as blows and kicks are not known to them.

CHAPTER XVII.

HORSE VOCABULARY.

The vocabulary of words to be used in our relations with the horse, should be very carefully arranged, so that no two words have a similar sound and never use more than one short word for any one action. We should be very choice in the selection of the words which we use in handling our horses, and we would strongly urge that every horseman who reads this book, will feel as we do in this matter, and adopt the vocabulary here devised, in the hope that everybody will eventually adopt the same, and then our horses will understand the language of every horseman—it being the same.

CHOICE WORDS FOR OUR HORSES.

As a large majority of those who handle horses have no particular choice in the words used with their horses, and often use a combination of words that even the intelligent human being can rarely comprehend, is it any wonder that our horses have no better understanding of what is said to them? Then as no two horsemen have any well established vocabulary for their communications with the horse, is it not time someone made up a list of words, for a beginning at uniformity?

There seems to be a general understanding that the word whoa is to be used when we wish to stop. This is a very good word and we would not change it, but would emphasize the matter that it should never be used except when we wish to stop still, and not use it to slacken the pace or for any other action. The word back is also a good word for the purpose, and should be used only when the backward movement is desired, and never in connection with any other word, as is too often heard "whoa-back," as this would certainly be confusing.

We should be as choice in our commands to our horses, as the officers of an army are to their men; and when everybody consents to the use of certain definite words for specific actions, then, and not until then, can we buy and sell or trade horses and have them understand what we say to them, which is the only rational manner of having the horse understand what we desire him to do.

KIND WORDS BETTER THAN HARSH BITS.

We are all aware that many will say that the bit is the only means of controling and directing our horses, and "with the whip in one hand and the lines in the other, we can force him to do our bidding." Yes, this can be done only to a limited degree, but to have the best service of your horse, he should understand what is wanted of him and then he will

gladly and willingly comply. But if we rely only on the lines and whip then we will have horses that are not to be trusted.

ONLY A TEN WORD VOCABULARY.

A uniform vocabulary of only ten words, if universally adopted, would be of inestimable value to both horses and horsemen, and if carefully considered in its true light, it seems there should be no trouble to establish it. Others may suggest a better formula, but as these have no similarity in sound and to the human mind have their meaning, as understood or by common usage; it is as good as any other we can think of, and find from long experience, that the horse readily learns what is expressed and does not seem confused in their use.

In starting the horse, we like to be able to gather up the lines and draw them tight enough to straighten them out, without the horse making a movement, and then before giving him the word for the forward movement, we want to let him know that we are ready and then tell him to go ahead. Many of the accidents with horses are the result of horses starting before the driver was ready. A large majority of horse handlers allow the horses to start as soon as the lines are touched—ready or not—and some drivers encourage the team in starting while the teamster is climbing into the wagon. This is all wrong, and should be severely condemned.

SHORT VOCABULARY TO BE USED WITH OUR HARNESS HORSES.

ALREADY—is a good word to let the horse know that you are about to give him a command, and as soon as he knows what is meant he will fix himself for it, let it be of whatever character desired, and if not repeated in too rapid succession, he will act with precision and human-like.

START—is an excellent word for the forward movement from a stand still, but should not be used except at the beginning, to start.

HURRY—will answer to increase the gait at the walk if repeated at long intervals, and will do at the trot or pace, by repeating in rapid succession—hurry, hurry, hurry, etc.

RUN—cannot be beat when the highest rate of speed is desired, and the horse will comprehend just what is wanted, and by the association of the whip at the same time that the word RUN is used, he will instinctively break from any other gait into the run and if repeated with emphasis, he will do his best.

STEADY—is a very good word to use when the gait is to be maintained or slightly decreased and must be associated with a very steady pull on the lines, and the word used in a soothing tone, in degree as you desire him to maintain or decrease his speed.

SLACKEN—indicates just what is wanted and in association with the pressure on the bit, will answer the purposes intended and in a very short time the word alone will answer the purpose.

WHOA—is about the most important word in the vocabulary, and should never be used except a positive halt is desired, as so much may

depend on the prompt compliance with the command, that we cannot afford to have the horse misunderstand it, and if he has been well trained to it, he will instinctively stop at the sound of that word, and often prevent a variety of accidents.

BACK—this is an important word to teach the horse, as often much depends on his understanding just how to perform the work of a backward movement with a load. He should first be taught this lesson out of the harness, as is described elsewhere in a very simple manner, in accordance with the equine law.

HAW—this is the word of our fore-fathers who used but one line in driving one to eight horses, and by a pull of this line, and using the word HAW, the horses would turn to the left.

GEE—this is also the word of our fore-fathers and was used in connection with a slight jerk on the one line and meant a turn to the right.

To the average boy of today these last two words HAW and GEE mean comparatively nothing, but the horse can be made to soon understand just what is wanted and as readily turn in the direction desired as he will at the word WHOA or BACK. So the reader can see that the horse may be directed by the word in all required movements, without the use of line or bit in the usual way.

Horses well instructed to the use of the single line system make the most reliable, intelligent and useful of our horses.

CHAPTER XVIII.

GETTING THE CONFIDENCE OF THE LITTLE COLTS.

Everyone familiar with the importance of having no mistakes made in the early education of our horses, will, no doubt, be sufficiently attracted by our handling to keep our company a few moments while we explain, in as plain and simple a manner as possible, what we believe to be the fundamental principle of procedure, as well as cheap and practical devices for the purpose.

No one who has studied the character and disposition of our horses will deny but what we must first get the confidence of our pupil before we can make much headway in his education. But how to get that confidence and maintain it, is the first question to be solved. We firmly believe that the best possible time is when the young foal is but one hour to one day old. And the best method is to feed the young thing granulated sugar from the hand, by first rubbing it between its lips until it knows where to find it, as well as where to get the milk from its mother, which it also has to learn. As soon as the young colt realizes that it can get as sweet food from the master's hand as from the udder of its dam it as readily goes to one as the other. As soon as the colt realizes this fact, it has confidence, and our word for it, that confidence will never be wanting unless we deceive it in some way.

As soon as the colt will come to you and eat sugar from the palm of your hand (See cut No. 28.) without apparent fear, you can begin to handle and restrain it. Be sure you touch every part of its body with your hands. Handle it as gently and kindly as you would a baby—which it really is, and sensitive, too.

Keep this up from day to day, until it will really look for your coming as a period of comfort, enjoyment and relish.

As it grows stronger and more familiar with you, it will be well to assure it that you are stronger; but, while you may hold it, it is not to be hurt or punished in consequence, but on the contrary, it is to be caressed, petted and even given sugar, which goes farther to satisfy it that there is no harm meant than anything else that mortal man can do for it.

TRAINING TO THE HALTER.

When the colt is about ten days or two weeks old is, probably, the best time to educate it to the legitimate use of the halter. While you have really had no trouble up to this time, there is great danger that right here you and the young equine will have a disagreement—a falling out—a misunderstanding—and possibly a lasting grudge at each other.

But if you will bear with us patiently and follow closely the instructions we will endeavor to make plain, you will soon realize how easy it is to educate a little colt to the halter.

Of course, if you have done the first part properly—got the colt's confidence—you will have no trouble in putting a halter on its head. But because you had no trouble in getting the halter in place, don't think for a moment that you will have no trouble in leading it, because you will, ninety-nine times out of a hundred, and this is just what you must avoid. Please mark well what we have to say about the further procedure.

Cut No. 28.

FEEDING THE YOUNG COLTS.

FASTENING THE COLT AT BOTH ENDS.

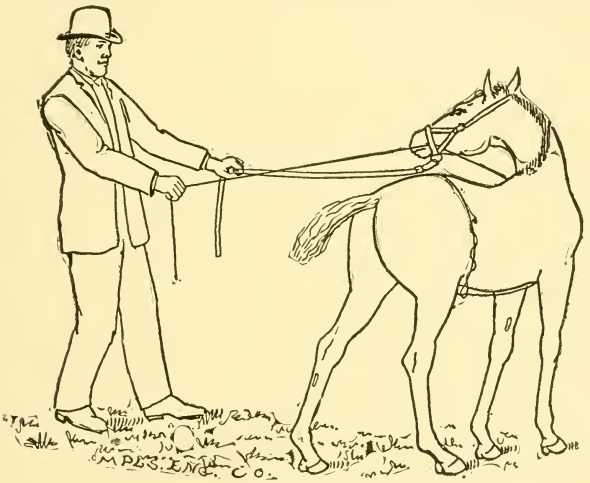
After the halter is nicely adjusted to the colt's head, take about ten or twelve feet of rope, clothes-line size, and tie a ring in one end or form a loop in the end to make a slip-noose; then place this rope around the colt's body—right around the loin and flank, running the rope through the ring or noose on the under side of the body; then pass it between the forelegs and up under the jaw-strap or nose-band of the halter as shown in the cut No. 29.

JUST READY FOR THE FIRST HALTER LESSON.

Now, and not until now, are you really ready for business without danger of a mistake, and if you follow instructions you will be well paid

for the time and trouble of reading this article, if you are not already in possession of a better method.

Now, take the strap of the halter in one hand, and the small rope in the other; take a position at a slight angle with the body of the colt, (but not so much as is shown in the cut) and begin to gently pull on the halter; you will observe that the colt has an inclination to resist you—go back on you for the first time—but just as it is about to do so give a sudden and positive pull on the rope, and both you and it will be surprised at the result—you will both find you are very near to each other, and you should recognize the close proximity by caressing it, and assuring it that you are still its friend, and that no harm was meant.



Cut No. 29.

If it is excited or confused by this new deal, don't push the matter farther until it is quiet, and satisfied with the new situation; then again get into position and repeat as before, and continue until the young thing will lead about wherever you may want to go. The halter education, as we term it, by this method will require only from five to fifteen minutes, whereas, by the other method—pulling on the head alone—you have but little idea where the end of trouble is.

By this improved method, you can readily see that you really have the colt hitched at both ends, and, by the proper manipulation,in accordance with the laws of its nature, the little thing is trying to get to you, instead of away from you—an important point.

HALTER—PULLERS ARE OFTEN MADE WHEN FIRST HALTERED.

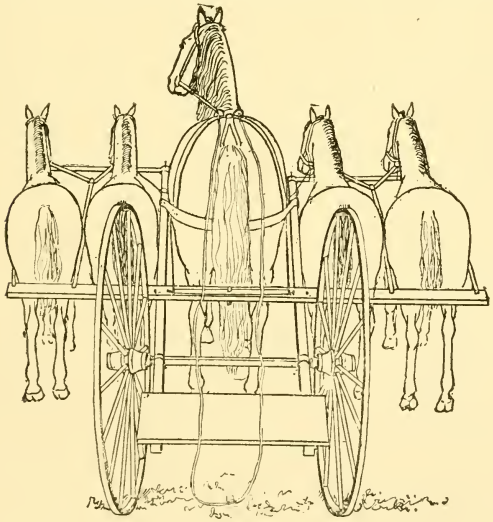
The first few times tying it up, use the rope around its body just the same, only, after passing the rope through the ring or tie-hole in the manger and tying it to the manger, carry back to the ring or jaw strap of the halter and tie there, leaving only about two feet of double rope from the head to the manger. This hitch prevents the colt pulling back on the halter (as the halter strap is not tied at all) swinging the head and throwing itself. Many of our halter-pullers are made by their breaking loose the first few times being tied up. The same method just given (except a stronger rope) is the right treatment for the halter puller. See Chapter XXIII.

CHAPTER XIX.

FIRST LESSONS IN HARNESS AS WEANLINGS.

When the colts are weaned and tied up, they must, of necessity, have exercise, and the best possible method, in our opinion, is to drive them, instead of turning them loose and taking the chances of their becoming nervous, wild, and getting hurt.

We have studied this matter a great deal, and tried to get at the fundamental principles of a rational equine education. For simplicity, cheapness and expediency, the method herein illustrated is the best we have ever seen or devised. See illustration No. 30; hitched for the start.



Cut No. 30.

THE OLD HORSE TEACHING THE WEANLING COLTS.

The association of the young with the old, reliable and experienced horse, is of vast importance in the beginning. This is genuine "kindergarten" school work and is simply wonderful in its influence with the

little equine "urchins!"—they readily learn, by precept and example, how to conduct themselves in the harness, without restraint by harsh bits in their young, tender mouths, irritating their lips and lascerating their tongues and gums.

NO HARSH BITS USED IN THE COLTS MOUTHS—ONLY WEAR THEIR HALTERS.

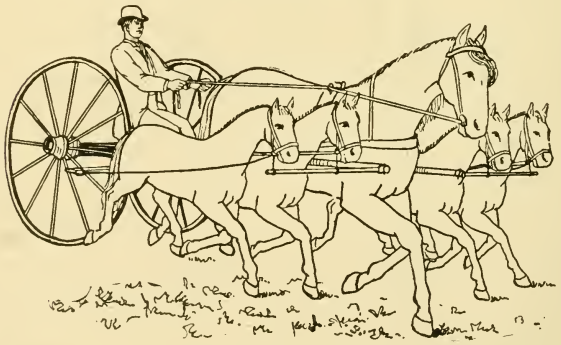
The colts are guided and restrained by their halters only; and mother, aunt, uncle or friend "stability," well harnessed to the cart, directs the way through the means of lines in the hands of a considerate driver. When the Kindergarten teacher starts, they are shown the way as well as compelled to go along. When the word whoa! calls for a positive stop, all hands stop at once, as per the force of the old horse and the method of fastening. Use the select words for all movements and it will be surprising how much actual education your colts will get in one week.

THE KINDERGARTEN TEACHER HAS FULL CONTROL OF THE COLTS.

With one hour a day, one, two, three or four can be handled at one time and require no more effort than the driving of the old reliable horse, who really controls the colts without pain or excitement—the real basis of true horsemanship.

HAVE THE HORSE WAIT FOR THE WORD OF COMMAND.

The colts should be taught to stand until all is ready for the start; when ready, give the word "start" to the old horse, and the colts will soon "catch on." Start off quietly every time. Teach them to walk, trot or pace, and run. See illustration cut No. 31.



Cut No. 31.
DRIVING ON THE ROAD.

Stopping occasionally to get off the cart and go to them for a friendly recognition with a little sugar, sweet apple, cookie or other relished morsels.

DRIVE IN BAD PLACES, ACROSS BRIDGES AND CARRY AN UMBRELLA.

Drive through muddy places, streams, over plowing, deep furrows, high weeds, small brush and bridges; meet teams and other obstructions; carry an umbrella which takes the place of the top carriage; to get them used to having objects seen behind them; but whatever you do, don't hurt them.

COLTS HELD IN POSITION BY CROSS-BAR, STRAPS AND JOCKY-STICKS.

You will see, by close examination of cuts, Nos. 30 and 31, that the colts are held in position by straps running from a crossbar on long shafts, to their halters—serving as tugs or traces, and guided at the head by "jocky"sticks from each shaft to their halters to keep them from crowding the old horse.

All the fastenings are with snaps, at the ring of each ones halter; requiring three snaps at each halter. The shafts can be made of two poles each about fourteen feet long and fastened to the axle and wheels of a carriage or wagon. The cross-bar behind the colts, to which they are fastened with straps or ropes, should be attached to the shafts just in front of the wheels, which will leave a considerable space between the colts and this cross-bar when they are all up in position, which will give them plenty of room for backward and forward movements in their education.

EARLY LESSONS MADE EASY, ACCIDENTS AVOIDED AND IMPRESSION LASTING.

A few drives in this manner will do more for the colts towards a useful life in all future work, than several months after they are fully grown. The old horse is strong enough to hold them in place and carry them along or restrain them under any and all circumstances, which is the very foundation of their future usefullness. To make valuable horses they must sooner or later learn these lessons, and the earlier in life it is done the better, and especially when there is so little danger of making mistakes, which are often made by their superior strength, when fully grown.

ARRANGEMENTS OF THE ATTACHMENTS FOR THE COLTS.

The jockey sticks are made of two good fork handles or other material of sufficient strength, and fastened to the ends of the shafts, so they will have sufficient motion for movements up and down backwards and forwards. It will be observed that a cross strap is used between the colts with a ring in the middle, to receive the snap of the strap or rope going between the colts back to the crossbar, which will pull equally on both. There is also an additional strap from the inside colts to the shaft, so that if the jockey stick should become detached from the shaft, that the colts cannot pull away to one side. Everything should be made secure and then there is no danger of any accidents or trouble.

ANYONE WHO CAN DRIVE AN OLD HORSE CAN DRIVE FOUR COLTS.

By this method (which we believe is original with us) anyone who can drive the old steady horse can drive four colts. All there is in the work, is to keep the old horse going until you wish to stop, and by the use of the word whoa! a full stop must be made and the little colts in a few stops understand what is meant by whoa! as well as the old horse. They should never be started in any other way than by the word and if the old horse is well trained, the little colts will soon learn the starting word too.

KINDERGARTEN WORK NEVER APPRECIATED UNTIL PRACTICED.

Probably no one will ever appreciate the full value of the kindergarten education of the little colts until it is practiced. We must remember that notwithstanding the horse is mute, he is wonderfully intelligent and what is of more importance to know, is that he never forgets what he has learned, whether it is good or bad. This should impress upon our minds the importance of having our horses learn only the good lessons.

CHAPTER XX.

HOME MADE, BUT VALUABLE CART.

This home made but very valuable cart (see cut No. 32), is made with the hind wheels and axle of a carriage or buggy, and two long poles (young growth hickory, iron-wood or any other tough, springy wood), clipped to the axle, provided with a crossbar and whippletree and a board seat at the rear end, with wedge shaped pieces under the back part to tip the seat forward for easy riding. These shafts should be fourteen feet long, with provision at the ends for the attachment of a strap across from point to point, to prevent the horse in rearing from throwing his front leg over the shaft, as when so provided with this strap the horse's legs striking the strap and he goes no higher.

A VALUABLE VEHICLE FOR DRIVING COLTS OR UNRULY HORSES.

This cart makes a very valuable vehicle for driving colts or unruly horses, as they are hitched so far ahead of the wheels that they do but little damage in kicking. If the horse throws himself, no particular injury is done, as the shafts are so springy that there is but little danger of breaking and if the horse is inclined to turn around suddenly, he is obliged to make so large a circle that he gets discouraged before he accomplishes his object.

A GRAND VEHICLE FOR HANDLING THE RUNAWAY OR KICKER.

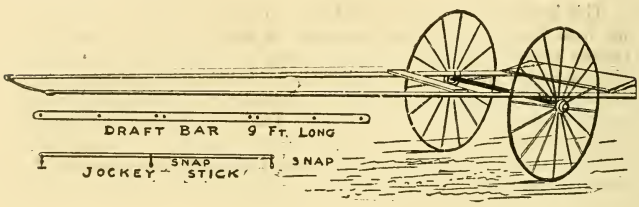
If the horse starts to run away, we have only to let him have his head for an instant and the muscles of his neck will be so relaxed that we can instantly pull (by one rein) his nose to the line ring of the saddle, and he must stop or fall broad-side.

AN EXCELLENT MEANS FOR EDUCATING THE HORSE TO TURN AROUND.

If the colt does not answer to the bit in turning around, we should pull gently on the one rein, for the direction desired and raise up on our feet and carry the cart around which will point the colt in the desired direction we wish to go; the long shafts answering as levers to turn him around, showing him that we can turn him with but little effort and he soon learns what is meant by pulling the bit in his mouth.

ATTACHMENTS TO THIS VEHICLE FOR DRIVING WEANLING COLTS.

By placing the draft bar across the shafts of cart just in front of the wheels and clipping there, and then fastening the "T" end of the jockey sticks to the points of the shafts, we have the most admirable device for driving the little colts, as shown in cuts 30 and 31. This makes a combination that cannot well be dispensed with on any farm where colts are raised, as it costs but a trifle and it not only answers a variety of purposes, but enables us to manage the horse with so little trouble, and prevents many mistakes.



Cut No. 32.
COMBINATION CART.

CHAPTER XXI.

PRINCIPLES, MEANS AND METHODS OF CONTROLLING HORSES THROUGH THE MOUTH.

The main principle of handling the horse through the medium of the mouth is to have the punishment happen at a distance from you and if he does not come to you for relief, you should go to him and relieve him of any undue pressure that has been brought to bear on his mouth; assuring him that when near you he can get relief, which he will learn in one or two minutes and be willing to follow you wherever you may go. It is always better to make your impression on his mouth when he is at an angle, instead of in front of him. This will induce him to turn on his hind feet and advance towards you, when you should relieve him every time, if he is in the least trouble.

QUARTER INCH MANILA ROPE FOR THE SAFETY BRIDLE.

To do this work most effectually, a small manila rope is the best, put on in the form illustrated by the cuts for the safety bridle, Nos. 33 and 34 here presented. First take the rope in your left hand about sixteen or eighteen inches from one end and lay it over the horse's neck, holding on with the left hand; then reach under the neck with the right hand and grasp the rope near the end.

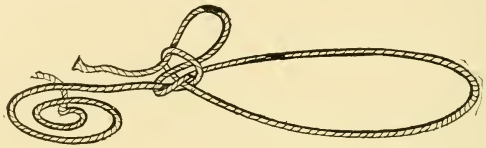
LEARN TO TIE THE VALUABLE BOW-BOW-LINE KNOT

Form a loop with the fingers of the left hand so that the portion going over the neck shall be on top at the cross (not under), then pass the end of the rope up through this loop (not down through), and draw down so as to encircle the neck closely with the rope; now pass this end all the way around the main rope and put it down (not up), through this loop doubled, and grasp this doubled portion with the thumb and finger of the left hand and pull on the main rope, which will tie a very secure knot that will not slip and one that is very eisaly untied by pulling on the end, the same as you would untie your shoe when tied in a bow knot. This is a very convenient and secure knot for the purpose, and may be called the bow-bow-line knot. See illustrations Nos. 33 and 34.

STUDY THE BOW-BOW-LINE KNOT CAREFULLY.

The next step is to put the left hand between the neck and rope from the front and pull through a portion of the rope doubled, taking hold of the portion attached to the neck with the right hand, bringing it on the

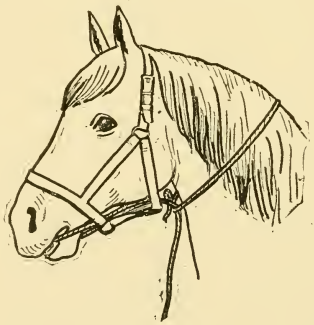
off or right side of the horse's mouth; then by putting the thumb of the left hand in the horse's mouth and making gentle pressure with the soft portion of the thumb against the palate or roof of the mouth, the horse will open his mouth readily, when you can pass the rope through the mouth with the right hand and grasp it with the left on the near or left side of the mouth, when the slack in the rope can be taken up by pulling on the main rope with the right hand, and the first form is properly adjusted.



Cut No. 33

PUTTING FIRST FORM ON THE HORSE BEFORE REMOVING THE HALTER.

One of the valuable features of the safety bridle is that the first form can be put on the horse before the halter is taken off the horse's head, thereby avoiding any danger of the horse dodging or getting away while the bridle is being put on. This feature alone is worthy of due consideration in handling tricky horses. When this first form is put on, the halter then can be taken off, and the horse is secure and we are ready to put the subsequent form in position. See cut No. 34.



Cut No. 34.
FIRST FORM ON UNDER THE HALTER.

POSITIONS TO BE TAKEN WHEN ADJUSTING THE SAFETY BRIDLE.

Now stand with your face towards the horse's tail and take hold of the rope with the right hand about one foot from the neck; then reach

over the rope (not under) with the left hand (back up), palm down, and grasp the rope and lay up over the horse's head, back of the ears, in half hitch form, carrying the rope held in the right hand about to the base of the ears; pull down with the left hand to take up all slack in the rope; then change hands and hold this portion in the right hand under the horse's neck and again open the mouth as before with the left hand, pull the rope through with the right and grasp as before, with the left hand at the mouth on the left side and take up all slack in the rope, with the right hand, by pulling on the main rope, and we have the best stallion bridle (or for other use) in handling horses that we have ever seen or used. See cut No. 35. It operates by pulling the cheeks of the horse between his teeth and will prevent him from biting.

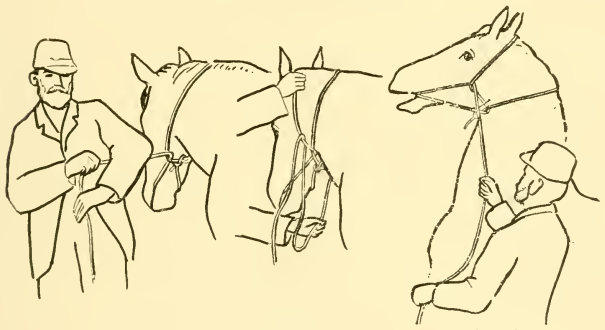


FIG. 1. FIG. 2. FIG. 3.

Cut No. 35.

SAFETY BRIDLE.

DON'T DRAG OR SAW THE ROPE THROUGH THE HORSE'S MOUTH.

We have taken a great deal of pains to describe all the movements in putting this form of bridle on the horse, so that there will be no sawing of the rope through the horse's mouth, and make a perfect adjustment when completed.

WHEN THE HORSE IS IN TROUBLE KINDLY GIVE HIM RELIEF.

It must be strictly borne in mind, that the horse is not to be abused with this bridle by harsh usage, but whenever the horse is disposed to get away or be unruly, a pull on the rope when the horse is away from you, and then relieve him when he comes to you—every time—and he will very soon look upon you as his friend and reliever of trouble. But if you punish him without relief, he will have no respect for you, and you will fail in its intended use. The principle of kindness, associated with powerful means and the method of use, will perform wonders in the management of the horse.

USE THE SENSATIVE HORSE VERY GENTLY AND THE DULL-HEAD SHARPLY.

The sensative horse must be used very carefully, and the willful dull-headed, can be handled more positively; but on the same principle of relief when near you, and in difficulty when away from you. Keep the principles in mind and success will follow.

"YANKEE BRIDLE" OR ANOTHER MEANS OF CONTROLLING THE HORSE THROUGH THE MOUTH.

This character of rope bridle is preferable to the other in some instances but for the beginner and for leading the horse it is excellent.

"YANKEE" BRIDLE CAPABLE OF MANY USES.

This "Yankee" bridle can be used in many forms and for different purposes, is what makes it valuable in very many cases. It is made of about qaurter-inch (like the former) manila rope, fifteen or twenty feet long, with a knot tied in each end to prevent fraying out. Tie a fixed loop in one end, just large enough to be put in the horse's mouth over the under jaw snugly, and when made, turn the knot through the loop, drawing the main portion of the rope through sufficiently to put over the horse's head, with the knot of the loop on the off or right side of the horse (see cut No. 36); then proceed to place the loop portion into the horse's mouth with the lose portion of the main rope on the near or left side of the mouth. See fig. 1, cut No. 37. This alone will make a good leading bridle for any horse.

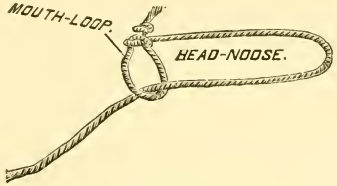
USED IN DOUBLE OR SINGLE FORM IN THE MOUTH OR UNDER UPPER LIP.

If you need a very powerful bridle for an unruly horse, you may stand with your back towards the horse's tail, holding the main portion of the rope about one foot from the mouth in the left hand, reach over with the right hand and grasp the rope below about one foot and turn with your face towards the horse's tail and lay the rope on top of the head and take up the slack in the rope; then take hold of the rope just at the right side of the mouth, raise up the upper lip with the left hand (see fig. 2, cut No. 37); and pass the rope across above the upper teeth and hold in position with the thumb of the left hand, and with the right hand take up all the slack of the main rope (see fig. 3, cut No. 37); and you have a bridle that should be used with the utmost caution with the sensative horse; but the sulky dull-head will readily respond to its influence. It should always be used with gentleness when the horse will respect it. The illustrations (cut No. 37), show in their order how it will appear when adjusted on the head of the horse. This also makes a good stallion bridle for service work.

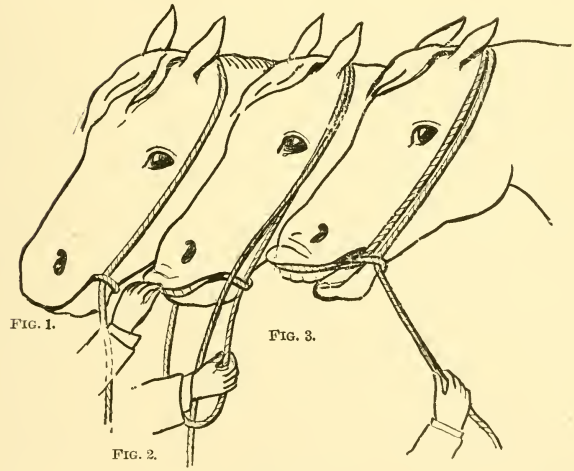
ONE FORM EXCELLENT TO TEACH THE HORSE TO HOLD HIS HEAD LOW DOWN.

If you have a horse that is difficult to bridle, put this on in its first form, and instead of leaving the head loop just back of the ears, you will

pull it back on the neck near where the collar rests; you now have the means of inducing the horse to hold his head very low, while you put on the bridle. When you put your hand up towards his ears and he throws his head up you should pull on the rope, which will hurt his mouth up there, and by holding steadily on the rope, he will very soon drop his



Cut No. 36.

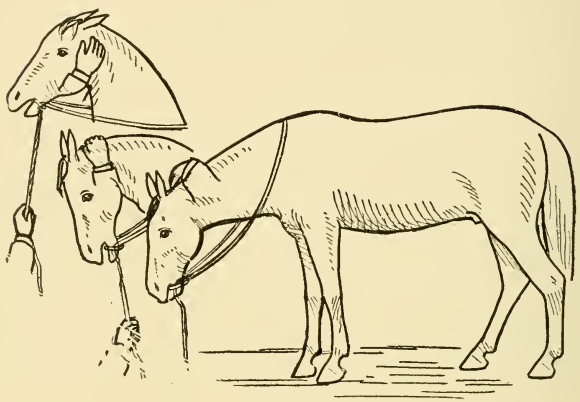


Cut No. 37.
YANKEE BRIDLE.

head a little for relief, and if he will let you handle his ears, you should loosten the tension on the rope, and if he resists you and throws his head up again be sure to pull on the rope again, and hold steadily until he drops his head a little, when you can try to get him to let you press his head downwards and if he lets you depress it, you must be sure to let the rope loose or in other words show him, that when he holds his head high, it hurts his mouth, and when he holds it low, he gets relief. It re-

quires less time to accomplish the object than it does to tell how it is to be done. The three forms show about how it operates. Cut. No. 38.

TEACHING THE HORSE TO HOLD THE HEAD LOW TO BE BRIDLED.



Cut No. 38.

USED FOR CONTROLLING THE HORSE WHILE TREATING A SORE NECK.

This form is also excellent in treating a collar sore, on the top of the horse's neck, by drawing his head low and tying in a half hitch, as shown in the middle picture (training school cut, No. 38), and the horse has so little use of his head that you will have but little trouble in handling the sore neck, which is otherwise really dangerous, with a very sensitive horse.

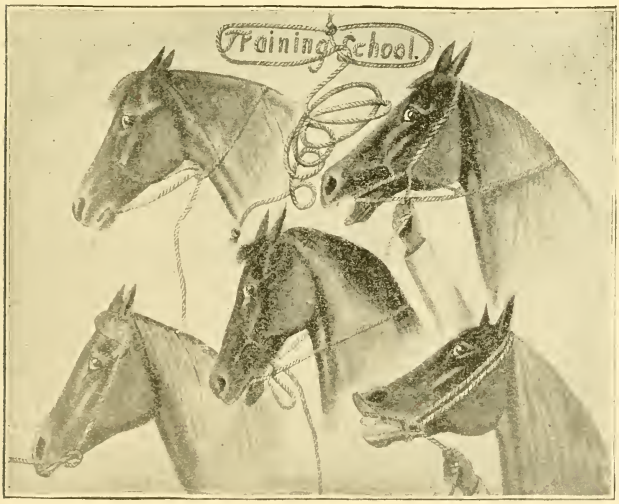
CAN BE USED TO ADVANTAGE FOR THE HARD BITTED HORSE.

This form of the "Yankee" bridle to have the horse hold his head low, is also very useful in curing the "lugger," "puller," or "hard bitted" horse by putting it on over the bridle, before attaching the lines to the bit, and have it long enough to extend back to the vehicle, driving with only a gentle pressure on the driving bit, and as soon as the horse begins to bear hard on the bit, just pull on the rope, which will draw his nose inwards, and for relief he will have to hold it in still farther; but just as soon as he slackens in his speed, or lets go of the bit, don't fail to loosen the tension on the rope. We have often cured the "lugger' in this way in a very few drives. But if the driver will encourage the horse

in bearing hard on the bit he will soon become a "lugger," as his mouth becomes numb and then he bears the harder.

ALWAYS GIVE THE HORSE RELIEF AS SOON AS HE YIELDS TO PRESSURE.

If you drive with a light hand and do not encourage the horse to bear on the bit, but bring to bear the pressure of the "Yankee" bridle, the horse will soon be willing to go as you wish. Please remember, that if the horse will go with an easy rein, you should be willing to let him, and if he is bound to rush into the bit, that you will use the rope instead of the bit, and he will soon make up his mind that whenever he determines to bear on the bit, that the rope is there to get in its work; otherwise he is not to be hurt. The principle always should be to give the horse no pain or inconvenience when he complies with your wishes, and when he does not, that there is a method and a device that will get him into trouble, but it will all be made easy just as soon as he realizes its effect and will comply.

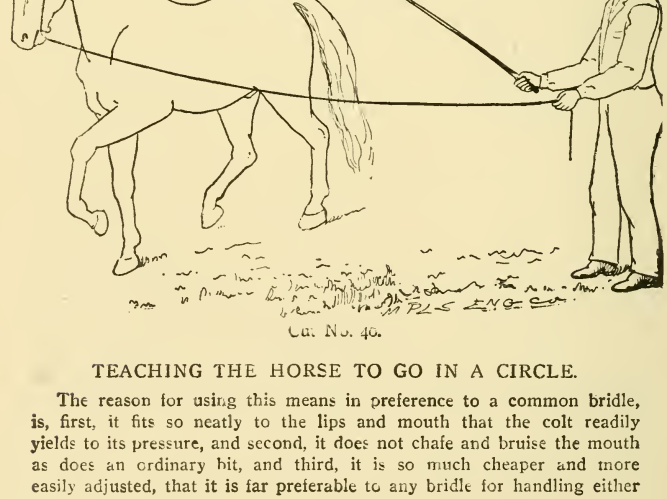


Cut No. 39.

TRAINING SCHOOL, OR THE DIFFERENT FORMS OF ROPE TO THE HEAD.

Cut No. 39 embraces all the different forms completed, shown in cuts Nos. 33 to 38 inclusive; all of which should be studied well by those who want to become proficient in handling the horse through the medium

of the mouth, which, for cheapness, convenience, rapidity and practicability (when the natural law is complied with) excels any other method for all kinds of horses, that the author has had any experience with. Since a boy of ten years of age, twenty feet of manila rope—quarter-inch size—placed on the horse's head in a great variety of forms, has been the most satisfactory in management and education of all kinds and dispositions of anything yet invented for handling horses through the medium of the mouth. It can be used very gently with the sensitive animal, but, if at any time the horse becomes unruly, excited or badly frightened, by this means he can be easily controlled; and, if in the excitement he gets pinched by the mouth rope, he must be relieved at the very first opportunity, which gives the horse confidence that he has a friend in his instructor, as well as a master of the situation. This cut, No. 39, is a half-tone photograph taken from the large canvas picture (painted by himself) that the author has used, as an illustration in farmers' institute work for a great many years.



Cut No. 40.

TEACHING THE HORSE TO GO IN A CIRCLE.

The reason for using this means in preference to a common bridle, is, first, it fits so neatly to the lips and mouth that the colt readily yields to its pressure, and second, it does not chafe and bruise the mouth as does an ordinary bit, and third, it is so much cheaper and more easily adjusted, that it is far preferable to any bridle for handling either colts or aged horses.

After leading the horse from the stable, take a bow or buggy whip, and by gently tapping him on the hind parts, he will be induced to go around in a small circle (at first) as shown in cut No. 40.

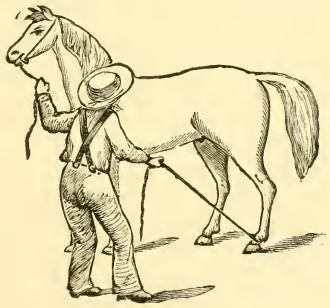
MAKING ACQUAINTANCE WITH BOTH ENDS OF THE HORSE AT A DISTANCE.

This exercise is equivalent to driving him single, and he can soon be taught to start and stop at the word.

He should first be taught to go in only one direction until he fully understands what is wanted of him; then he may be turned in the opposite direction, but care must be taken that he does not become confused, or his instructor excited, as frequently mistakes and misunderstandings occur right here. Don't undertake too much in one day. Remember that one thing well learned is worth any number of things half learned.

HANDLING THE LEGS OF THE MATURE HORSE WITH EASE.

Take a long strap, like a tie-strap, with a ring or loop in one end, put it around the hind leg about the hock or above, run the end through the ring or loop and let it slip down between the fetlock and hoof, then with one hand holding the cord at the head, commence pulling gently on the strap at the foot. If the horse will yield to it, let it down again very soon, as seen in cut No. 41, and so on until the horse will allow any one of his legs to be handled without resistance.



Cut No. 41.

THE OLD FARMER SHOWING THE COLT HOW HE SHOULD YIELD UP HIS FEET.

If he does resist the pressure of the strap on his leg, you should at that very instant, make a greater impression at his mouth with the rope, and he will soon realize that the one governs the actions of the other, and will permit the legs to be handled, if done gently, as that hurts less than at the mouth when he resists. This is a far better method than to try to take up the feet in the ordinay way the first time. In this way the horse has more freedom in the use of his legs and he must first learn that he is not to be struggled with, and then he readily yields his feet to your wish.

CHAPTER XXII.

COMBINATIONS OF THREE TO BE REMEMBERED.

The following paragraphs are made up in threes to be easily remembered and to be adhered to or rejected as desired.

THREE IMPORTANT LESSONS TO TEACH THE HORSE.

Three of the most valuable lessons to be taught the horse are: To start at the word of command, stop at the word of command, and to back at the work of command, all good and valuable.

THREE ANNOYING TORTURES TO THE HORSE.

Three of the most annoying and painful tortures to the horse are: The abuses of the whip, the suffering from harsh bits, and the painful pressure of badly fitted collars, neither of which should ever be permitted.

THREE IMPORTANT CONDITIONS OF THE FEET.

Three essential conditions of the feet are: Strong walls, elastic frog, and unmolested bars and sole, which can be had with care.

THREE GREAT ENEMIES OF THE FEET.

Three great enemies to good feet are: Long toe and heel calks, large nails driven high up in the foot, and the wall rasped off to fit the shoe, neither of which should be permitted.

THREE POINTS IN THE CARE OF THE HORSE.

Three valuable points in the care of the horses are: Water before feeding, and moderate quantities of grain and hay, given often and with regularity. Fifty years' experience proves this true.

THREE IMPORTANT FACTORS IN KEEPING THE HORSE IN CONDITION.

The horse, to work hard and keep in good condition, must be started off in his work moderately, worked steadily, and never annoyed or fretted. Try this thoroughly and you will be convinced.

THREE CONDITIONS THAT WEAR THE HORSE OUT RAPIDLY.

To wear the horse out rapidly, and never have him in condition, is to feed irregularly (as to quantity or time), water whenever convenient, rush him into his work, and keep him on his nerve all the time. Don't try these.

THREE POINTS IN GETTING THE GOOD WILL OF THE HORSE.

Three things to do to gain the good will and respect of the horse are: To feed frequently small quantities of sugar from the hand, treat him kindly in his stall or at work, and always give him a good bed. If you don't do this, you may rue it.

THREE THINGS THAT WILL CAUSE THE HORSE TO FEAR US.

Three things to do if you want the horse to fear and disrespect you are: Slam the stable door every time you enter, speak in a loud, harsh voice, and give him a thrashing in the stall. It won't pay to try these.

THREE THINGS TO SECURE SAFETY WITH THE HORSE.

If you would have a safe horse, harness carefully, hitch securely, and drive with good judgment. Don't forget to do these things.

THREE CONDITIONS FOR UNRELIABLE HORSES.

If you prefer insecure, unreliable horses, harness carelessly, hitch indifferently, and allow them to start and stop when they please. It don't pay to be careless.

THREE THINGS NECESSARY TO BE ABLE TO CATCH THE HORSE ANYWHERE.

If you would have the horse easy to catch in the yard or pasture, when you reach him give him a little sugar, caress him, and put the bridle bit into his mouth with the utmost gentleness. If you do these he will come to you.

THREE ESSENTIALS IN GROOMING THE HORSE.

To groom the horse perfectly is to clean his coat thoroughly, brush his mane and tail with greatest care, and remove all accumulations from the bottoms of his feet. Don't forget the feet.

THREE CONDITIONS IN INDIFFERENT GROOMING.

To groom the horse indifferently is to scratch him a little in one place and then in another, neglect the mane and tail, or pull the hair out with the curry-comb, and never even look at the bottoms of his feet. If you have any respect for your horse, don't do it this way.

THREE CONDITIONS TO INSURE THE HORSE STANDING STILL WHEN HITCHING.

If you would have the horse stand quietly while being hitched single, buckle and take the lines in your hand, pull the shafts in place gently, and hitch tugs, hold-back straps and girth before attempting to start. This insures safety to begin with.

THREE THINGS THAT WILL MAKE THE HORSE RESTLESS WHILE BEING HITCHED.

To make the horse afraid of the vehicle and restless while being hitched, is to leave him standing alone, go after the vehicle, and surprise him by dropping the shafts on his back, or punch him with them in the thighs or ribs. This kind of work never pays.

THREE THINGS NECESSARY TO HAVE THE HORSE STAND AFTER HITCHING.

To have the horse stand still after hitching, is to handle the lines very carefully, get into the vehicle quietly, and, when you are ready, give him the command to go in a gentle manner. Please remember these.

THREE THINGS THAT WILL MAKE THE HORSE NERVOUS AFTER HITCHING.

To have the horse impatient after hitching, is to handle the lines carelessly, get into the vehicle in a hurry, and hit him a slap with the lines as you get in. Please don't do any of these things.

THREE ESSENTIALS IN KEEPING THE HORSE SOUND AFTER A HEATED DRIVE.

To keep the horse sound and limber after a heated drive, give him a few swallows of water often, keep him in motion while slowly cooling, and then take good care of him in the stable. A faithful friend deserves attention.

THREE THINGS IN REGARD TO THE HORSE'S SHOULDERS AT WORK.

Have perfect-fitting, clean collars, wash the shoulders at noon and night when at very hard work, and never use sweat-pads to fill up any deficiences of the collar. All explained in Chapter XXVII.

THREE THINGS TO REMEMBER IN REGARD TO THIS BOOK.

This book is prepared for those who are studying or want to study the horse from the standpoint of his nature; means and methods to demonstrate to the horse that man through these means and methods is stronger than he and can control him, and in consequence of man's superior manifestation of power, the horse is not to be injured, but, on the other hand, he is to be educated and treated in a most humane manner, for obedience and compliance to man's wishes. Reader, examine it carefully before condemning. It is written in the interest of the horse as well as his owner, and the hope of the author is, that both will share alike in its precepts. Man's inhumanity to the horse makes countless thousands suffer.

CHAPTER XXIII.

USE AND ABUSE OF THE OVERHEAD CHECK-REIN.

Very much has been written about the abuse of the over-head check-rein, but this subject, like almost all others, has its friends and enemies; but the matter will be treated from both sides of the question believing that it has a valuable use as well as its abuse.

THE "KIMBLE JACKSON" CHECK-REIN.

The over-head or over-draw check-rein was devised and first used by the old-time driver, Hiram Woodruff, on the trotting horse Kimball Jackson, and was called for a long time the "Kimball Jackson" check-rein. It was used to prevent him from getting his head down when he made a break, which by the side-check rein, he could not be brought back to the trotting gait again. This "Kimball Jackson" check answered so good a purpose with a great many trotting and pacing horses, that its use has become almost universal. But the trainer knows that it is very hard on the horse to keep his head drawn up high for any great length of time, and so he does not check him up high until he is ready to speed him, and then as soon as he has gone the short distance of one or two miles, he does not fail to uncheck his charge and give relief to the horse.

ITS USE WITH THE RACE-HORSE DRIVERS.

This check was intended to be used on the track, where the surface is about as smooth as a floor, and only for a short time, without giving relief, by letting the horse have a chance to rest his tired neck.

ITS ABUSE WITH THE ROAD RIDERS AND DRIVERS.

The use of this check became so popular with the trotting horsemen that everybody thought it must be just the check to be used on every horse, and for any length of time, and today it has become almost universal with all classes; but the poor horse is a great sufferer on account of it being drawn tight, and left for so long a time, in consequence of which we see the horse turning his head from side to side for relief whenever stopping, and if we go to him and uncheck him he will immediately put his head down near the ground for relief, just as we would put our head forward and rub the back of our neck if we had been looking up at the stars for two or three minutes.

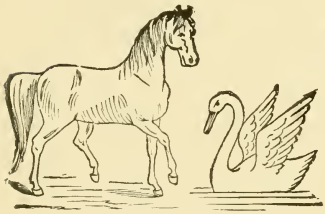
THE HORSE'S COMPLAINT OF HIS MASTER LEAVING HIM CHECKED TIGHT.

THE STORY TOLD BY THE HORSE.

Oh, cruel, unthinking, unfeeling, forgetful and neglectful master. If you could have realized the cramped feeling and pain you have caused

me, by that cruel over-head check, while you left my head checked so high while you were gone for three hours, I am sure you would have either lengthened my check-rein or unchecked me entirely. I have been turning my head from side to side, to shorten the distance from my back to my numb mouth, from the pressure of the bit and check, with little or no relief; and had you not come to my relief, I am afraid I should have gone crazy and broke things all to pieces. I was becoming desperate, and am thankful that you have decided to put me into the barn, and not keep my head strained up here any longer. I think if you could be made to understand that the continual straining of my neck by that check into an unnatural position, and keeping it there for hours at a time, is shortening my days of usefulness (stock in trade) to you. If you would watch my actions carefully in going down hill, you could see that with my head pulled up so high it is very hard on my back, straining on my fore legs, jarring to my feet, and if the road is uneven it is one continual jerk on my tender mouth and kinks in my neck, or if there is much of a depression, in which I happen to step (as I cannot see where I am putting my feet) then it is a terrible wrench on my back, similar to you stepping off a descent in the dark when you least expect it.

Cut No. 42.



AS NATURE MADE US.

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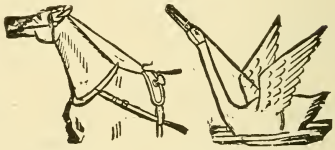

GRACE AND BEAUTY SPOILED

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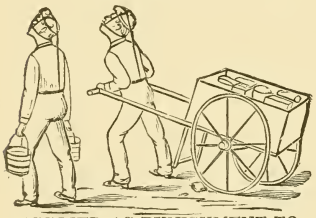

APPLIED AS PUNISHMENT TO CRIMINALS.

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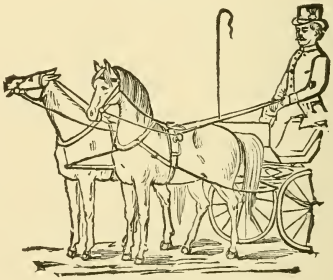


A LESSON IN CONTRAST.

THE HORSE CALLS ON HIS MASTER TO OBSERVE CLOSELY THE ILLUSTRATIONS.

Oh, master, look at these illustrations and then ask yourself how you would like to be so situated that you had to submit to being put into these unnatural positions, and kept there for hours without relief, and then you can have some little idea how your willing and faithful horse is suffering daily from your lack of sympathy and attention.

Kindly remember this lesson, and hereafter when you leave me lengthen out my check-rein or let me have the use of my head, and we will think more of each other. I will be a better horse for you and we will both enjoy each other more, and appreciate the comforts of life to a greater degree.

TO THE OWNERS OF FINE HORSES.

If the city men who own good horses, as well as others, will take a walk through their streets, or even in smaller towns, and observe the horses hitched along the walks with their heads checked high by this cruel over-head check, and watch them turning their heads from side to side for relief, they will have some idea what a punishment it is, and how much unnecessary punishment the horse is enduring for the want of a little consideration for his comfort.

DEMAND FOR RELIEF IF OWNERS KNEW THE HORSE'S SUFFERINGS.

If the owners of fine turnouts knew that their coachmen sitting on the seat of the carriage, whip in hand, ready to punish the horses every time they sought relief from that over-head check by turning their heads while standing in front of the residence where the ladies are making a fashionable call, there is but little doubt but positive instructions would be issued that the driver should get down and uncheck the horses and entertain them while the guests were enjoying themselves in the house, even if the call is not longer than ten or fifteen minutes.

LADIES COULD NOT ENJOY CALLS IF THEY KNEW HOW MUCH THE HORSES SUFFER.

If the ladies only realized what suffering their fine horses are enduring for their pleasure, a new order of arrangement would be enforced at once, and the horses would find that the driver would have to relieve their heads every time they stopped, or they could not enjoy their ride or visit. Ladies generally are far more sympathetic than men, and they can do much for the relief of the horse from the cruel over-head check-rein as well as in other respects.

SERMON TO HORSE OWNERS.

On a certain Sabbath a friend of the author was passing by a certain church, before which were hitched many teams, the property of affluent Christians. The owners and their families were inside, listening, no doubt, to the old, old story of loving kindness, man's brotherhood, consideration for the weak and lowly, protection to the helpless, etc.

WHILE THE HORSE SUFFERED THEIR OWNERS WORSHIPPED.

Those Christian horse-owners were probably unctiously seconding a prayer for the coming of that kingdom in which suffering would be unknown, and the milk of human kindness would ceaselessly flow;

they were probably contributing liberally to the work of lifting out of the darkness of barbarism and up into the shining light of modern civilization the benighted heathen of far off lands. But all this time not a few of the horses were enduring a torture more refined and exquisite than any that barbarous heathens could invent. The heads of the poor brutes were held in cruelly unnatural positions, and their necks were heartlessly strained and tortured by that infamous device of fashion —the over-head check. If the Father is mindful of the sparrow that falls, should not His worshippers be mindful of the suffering of that noblest and best of the brute creation, the horse?

SATISFACTION OF THE HORSES AND THEIR FRIEND IN TIME OF NEED.

The friend unchecked the tortured horses, and for a moment enjoyed the keenest satisfaction in seeing the poor animals straighten, stretch and twist their necks to get cords and muscles into their normal positions once more. He fancied, too, that he saw thanks and gratitude in the eyes of the relieved semi-human beasts. He passed on, happier for what he had just done.

SABBATH DAY'S RECORD WITH THE RECORDING ANGEL.

In auditing the final accounts of the inside worshippers and the outside philanthropist, that Sabbath day's record will appear on the books of the recording angel; but which, think you, will carry with it the larger credit, those of the disciples of empty form and ceremony inside, or that of he who was doing the Master's work outside? "Inas much as ye have done it unto the least of these ye have done it unto me."

Note—Let this be a lesson to be remembered by all church-going people, and those who heed it can enjoy the service better by knowing that their horses are comfortable instead of suffering.

CHAPTER XXIV.

IMPORTANCE OF A GOOD MOUTH FOR THE HORSE.

We all agree that there is no point in connection with a horse that contributes so much to the pleasure, comfort and safety of either riding or driving him as what might be called a responsive mouth, or one which obeys promptly the slightest intimation from rider or driver of restraint or guidance. A good mouth is, to a large extent, natural to a horse, so that some horses, if properly handled, can have their mouth made almost perfect. Such horses (of a team, as a rule) must have their heads so related to one another that they can bend their heads upon their necks with ease.

TENDER MOUTHS THE RESULT OF BAD HANDLING.

If horses so formed have bad mouths, it is usually the result of irrational handling, unless they happen to be unduly nervous or unintelligent animals.

Jointed or snaffle bits seldom injure the branches of the lower jaw, but sometimes press the cheeks against the anterior molars, and abrade the inner surface of the cheeks, especially if these molars are rough. Of the numerous ill results of soreness and discomfort in connection with the mouth, we may mention the following faults and troubles noticeable when riding or driving, viz.:

TONGUE LOLLING, CROSSING THE JAWS, ETC. IS OFTEN FROM BAD MOUTHS.

Crossing the jaws, keeping the mouth more or less open, lolling the tongue, slobbering, tossing the head to one side or the other, pulling out in double harness or crowding in, going cornerwise, sidelining, not going into the bit, carrying the head unsteadily, pulling, bearing down, balking, rearing, plunging or rushing when starting off (especially out of the stable), restlessness while standing, breaking their gait (or going unsteadily in harness when going within the horse's speed), mixing, hitching or hopping (either in front or behind), interfering; and, last but not least in importance, bridle lameness. If one considers for a moment, he can realize the extreme sensitiveness of these sores, and the excruciating pain a horse must suffer when facing the bit in the morning; so that it is not astonishing that some horses hang back when first taken out, and especially if they are predisposed to become balkers. The high-couraged horse, though he may hesitate at first, will, as soon as the part becomes numbed, begin to pull, and

show evidence of the discomfort he is suffering in the many ways already described—such as crossing the jaws, going with the mouth open, head to one side, etc.

IRREGULAR GAITED HORSES OFTEN CAUSED BY BAD MOUTHS.

In addition to the discomfort and difficulty of driving a horse with a bad mouth, as well as the danger, especially in crowded streets, and the unsightliness of his carriage, as in turning the head in and out, etc., a bad mouth is apt to produce irregularity in the gait and impaired control of the legs.

HITCHING AND HOBBLING OFTEN FORM BAD MOUTHS.

What is called "hitching" or "hopping" (generaly of a hind leg), although also due to weakness, too heavy a load, driving beyond speed, heavy shoes, etc., is not infrequently due to tenderness or soreness of the mouth, or to placing the bit too high in the mouth. There is no such thing as a congenital "hitcher." This habit is always the result of bad management.

HIGH COURAGED HORSES SHOULD HAVE THE MOUTHS TREATED CAREFULLY.

In high-couraged horses, whose mouths have become permanently injured from the bit, it is a difficult matter to overcome the habit; but if the mouth is allowed to heal thoroughly, the bit placed as low in it as the animal will stand and face it with a moderate degree of firmness, and not put his tongue over the bit, the fault can often be remedied.

OFTEN THE UNSTEADY GAIT IS FROM A BAD MOUTH.

Mixing the gait is usually attributed to want of balance, resulting from an improper distribution of weight in shoeing, and no doubt this is the case in some instances; but the cause should be more frequently attributed to the mouth. You will generally find that a horse inclined to mix in gait has an unsteady mouth. He does not take the bit with the necessary firmness, and keeps retracting his tongue, or putting his tongue over the bit, so that the pressure from the bit comes on the branches of the lower jaw, which always gives rise to irritability and a want of confidence in the animal's manner of going.

HORSE'S GAIT CONTROLLED WITH COMFORT TO THE TONGUE.

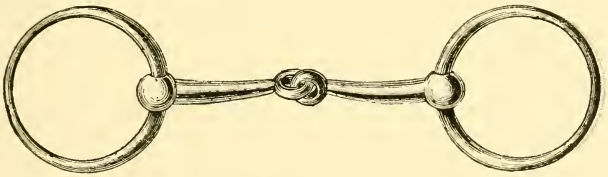
The tendency to mix the gait can usually be overcome by patient and persevering effort to get the tongue accustomed to pressure. The bit should be placed well up in the mouth, and be as comfortable a one as possible. Carelessness in the position in which the bit is placed in the horse's mouth often results in injury to that very sensitive part of his organization.

BRIDLE BITS FOR DIFFERENT HORSES.

A multitude of different bits have been devised for the control of the various and peculiar habits of our horses, most of which have been designed to punish and irritate the sensitive and responsive medium of communication between the driver and the faithful horse.

Cut No. 46.
STRAIGHT BAR-BIT.

Probably the straight bar-bit will come nearer being acceptable to the majority of horses than any other style of bit. One special feature of the straight bar-bit is to get one just the right length for the horse's mouth. A great many of these bits in use are too long, and occasionally we find one that is too short. The bit should be smooth and swelled at the ends, as shown in Cut No. 46—and they should always be kept clean.



Cut No. 47.
JOINTED OR SNAFFLE-BIT.

Some horses work more agreeably in this character of bit than any other. It gives more room for the tongue and the pressure is more on the jaws of the mouth than with the straight bit. Cut No. 47 represents a very good pattern and one that many horses prefer to others.

SEVERE BITS OFTEN INCREASE THE DIFFICULTY.

Punishment bits are intended to overcome the mischief already done by some bungling, unthinking, unfeeling and careless handler; but we are sorry to say that, as a rule, they result in making a bad matter worse.

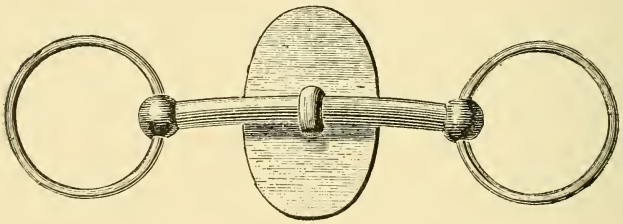
THE HORSE BETWEEN TWO FIRES.

With the punishment by the whip at the rear end of the animal, and a harsh and mutilating bit at the front end, the horse is between two fires; and if he does not balk, rear, plunge, and run away, it is a wonder.

CAREFULLY SELECT THE BRIDLE BIT ADAPTED TO THE HORSE.

In the commencement of the harness education of the horse, the selection and adjustment of the bit is of the first importance. It should be of the smoothest character, and adapted to the width of the mouth. Many bits are too long, and a few too short. The bridle should be so fitted to the head as to let the bit rest easy in the mouth; not too long nor too short. The bridle should not be so long in the headstall, as to drop the bit so low down in the mouth that the rings of the bit will be drawn into the mouth; nor should it be so short as to draw the angles of the mouth upwards, and become a constant source of annoyance to the animal.

The question of the proper bit for each horse is one that can only be determined by trial, and if several changes are necessary we should not be discouraged. Try, try again.



Cut No. 48.
TONGUE-LOLLING BIT.

To the horse that is nervous about keeping his tongue under the bit and constantly trying to get it over the bit and let it hang out at one side of the mouth, this bit shown in Cut No. 48 is well adapted for the purpose, and is just as easy in the mouth as the straight bar-bit, except the annoyance of the plate, which should be kept loose on the bit by keeping perfectly clean.

ATTENTION TO THE HORSE'S TEETH.

The teeth of the equine, like the human race in civilized life, require close attention. Generally the difficulty in the human family is in cutting the first set of teeth, but with the horse the greatest trouble is in getting the second or permanent teeth; and as the horse's mouth is a dark and difficult place to examine, he is frequently left to suffer seriously before proper attention is given to his condition.

YOUNG HORSES' MOUTHS REQUIRE TO BE LOOKED AFTER CAREFULLY.

Young horses' mouths should be looked after frequently, to see that the temporary or milk teeth are shed or removed at the proper time, so that the permanent teeth may come in regularly, and leave the grinding

surfaces of the teeth of both jaws coming together as they should for perfect mastication.

THE CAPS OF THE TEMPORARY TEETH MAY NEED REMOVING.

If the caps of the temporary teeth remain too long, they should be removed by the aid of forceps.

THE INSIDE OF THE UPPER AND THE OUTSIDE OF THE LOWER TEETH WEAR.

It will be observed that the upper jaw is wider than the under and, as a consequence, the greatest wear will be on the inner portions of the upper teeth and the outer of the lower, which often leaves rough, jagged edges of upper teeth next the cheeks (outside), and the same condition on the teeth of the lower jaw next the tongue (inside), and these projections should be smoothed down by the use of the guarded mouth rasp. This is all that is generally needed to keep the horse's mouth and teeth in good condition. Anyone can do this work, as but little skill or labor is required.

LONG TEETH SHOULD BE CUT OFF, AND DECAYED ONES EXTRACTED.

Sometimes it will be found that the first or last molars are too long, and then it will be necessary to have a veterinarian cut them off, or dress them down level with the other teeth, so the horse can masticate his food properly. In all cases where the horse is "quidding" his food, slobbering, holding his head to one side while chewing, or giving any evidence that he is suffering pain, a careful examination should be made, and the trouble remedied at once. If a decayed or broken tooth is found, it should be taken out. If there are any too long, have them cut off, and all projections and sharp corners dressed down; but in no case have the grinding surfaces of the teeth interfered with, except as here indicated.

The horse's health and actions often depend on the condition of the teeth, consequently it is a good plan to have the mouth and teeth examined at regular intervals, and if anything is wrong have it attended to in time by a skillful operator.

CHAPTER XXV.

FITTING THE COLLAR TO THE HORSE.

The harness service of the horse is largely done by the shoulders, then from the vast amount of work he does for us, all will agree that he justly deserves a perfect fitting collar, and nothing short of this should satisfy any horse owner, and like a bridle-bit, perfectly adapted to the mouth of the horse, is a perfectly fitting collar to the neck and shoulders of the animal.

THE COLLAR MANUFACTURER SOAKS THE LEATHER BEFORE STUFFING THE COLLAR.

The collar manufacturer stuffs and shapes the collar over an inanimate form, intended to represent the shape of the horse's neck in breadth and thickness, the material being thoroughly soaked, and as limp as a rag. It is then left to dry. When dry the collar is so firm and stiff, that in many cases it is impossible to buckle the hames tight enough to bring the collar to the shape of the horse's neck, and the shoulders are often compelled to adapt themselves to the collar, rather than the latter to the former.

THE COLLAR SHOULD FIT THE NECK AND SHOULDERS CLOSELY.

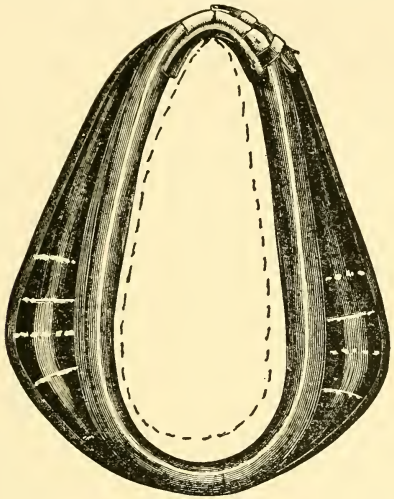
The necks and shoulders of no two horses are alike, and it is very seldom indeed that the shoulders of any one horse are exactly the same in size and form. The collar that will fit a horse in the early spring, when he is fat, will generally be found too large at harvest time, and the shoulder of the fat horse is different in form from what it is when he is thin in flesh; consequently, the importance of watching the adaptation of the collar to the shoulders.

EVERY HORSE SHOULD HAVE HIS OWN COLLAR.

Every horse should have his own collar, and it should always fit close up to the neck along its entire width; never tight at the points of the shoulder and loose towards the top of the neck, nor the reverse. Always have the hame-straps properly adjusted to suit the form of the horse's neck at the top and bottom, and always be absolutely sure that the lower hame-strap is buckled as tight as the thickness of the neck of the horse will permit, every time he is harnessed.

ALMOST ALL DAMAGE DONE THE HORSE'S NECK AND SHOULDERS BY LARGE COLLARS.

Loosely fitting collars and carelessness in adjustment of the hames do great mischief to our horses' shoulders. See Cut No. 49.

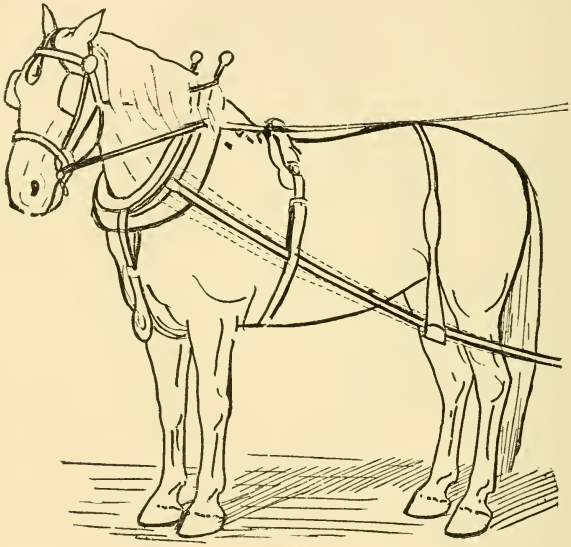


Cut No. 49.
A GOOD GENERAL FORM OF COLLAR.

ADJUSTMENT OF THE HAME-TUG MUST BE MADE BY THE DRIVER.

The adjustment of the hame-tugs, so as to bring the draught on the shoulder at the proper place, is also a very important matter that deserves the closest attention. If the draught is too low, the movement of the shoulders in walking gives too much motion, backward and forward, to the collar, and is almost certain to cause soreness, both at the points of the shoulder and at the top of the neck; and if the draught is too high, the injury will be equally as great. There is just a proper place (according to the conformation of each and every horse—see cut No. 50) for the draught of the hame-tug, and the owner or handler should be observing enough to know where that is, as no rule can be given that will be sufficient for all horses; it must be left to the good judgment of those in authority. When the hame-tugs are just at the proper place there will be but very little motion at the top of the hames as the horse walks along; but when too low, there will be seen a weaving back and forth of the hames at the top, which shows that the draught is too near the

point of the shoulders, and the collar is kept in a constant twist one way and the other, which is very injurious to the shoulders and top of the neck. This is generally the condition when the top of the neck and points of the shoulders are sore at the same time.



Cut No. 50.
ADJUSTMENT OF HAME TUG.

Now, we have represented how the collar should fit the horse's shoulders, and also told you in what condition the collar is made; but have not yet told you outright just how to get a perfect fit for each and every horse, which must be done or you will have a right to feel that the subject is left almost where it was started.

TO MAKE COLLAR FIT NECK AND SHOULDERS.

The horse collar is made over a form that suits the taste of the maker, and while it is thoroughly wet. Is it not well, then, to make the collar to fit the form of the neck and shoulders of the horse that is to wear it? To do this, select a collar of the size and general form best suited to the horse, wrap it with thoroughly wet cloths wound round it, and let it remain in them over night. In the morning put the collar—new or old—on the horse, and with the hame strap draw the collar snugly to sides

WHEN SOAKED, THE HORSE CAN ADAPT THE COLLAR TO HIS SHOULDER BY WORK.

After the collar has been soaked and fitted to the neck of the horse, by means of the hame-straps, and hame-tugs properly adjusted, then work the horse moderately through the day, and the collar will be better fitted to that particular horse and to every inequality of his shoulders than the best expert in the whole country could do over an inanimate form. This is the easiest, the best, and the most perfect manner of fitting a collar that we have ever found, and dispenses with pads and sore shoulders if well done.

SOAK THOROUGHLY AS OFTEN AS THE COLLAR IS FOUND NOT TO FIT.

If you have fitted collars to your horses by this method in the spring, when they were fat, and then worked them down thin in flesh, it will be necessary to soak the collars again and readjust them as before, and in this way you do not have to be at the expense of pads, which have a tendency to soften the shoulders rather than toughen them, and are also an addition to the harness that is entirely unnecessary if the collars are properly fitted.

HAME-STRAPS SHOULD BE BUCKLED TIGHT.

Always see to it that the hame-stramps are buckled tight enough to draw the collar close up to the sides of the horse's neck its entire width, so there is no space whatever between the sides of the horse's neck and the collar. If the horse shrinks in flesh this matter of drawing the hame-straps up a little closer is of the utmost importance in preserving the good condition of the shoulders.

THE SHOULDER AND COLLAR MUST BE KEPT CLEAN.

The shoulders and the collar should be kept scrupulously clean where the horse is constantly at hard labor, and a weak solution of salt and water, and sometimes a decoction of white oak bark, as a wash for the shoulders, every night after the day's work is done, is found to be excellent in practice.

BADLY ADJUSTED COLLARS ONE GREAT CAUSE OF BALKY HORSES.

There is but little question that the horse suffers more, and many of his bad habits are traceable to, the abuse of his mouth through the agency of torturing bits and badly fitting collars than from all else combined. Should not, therefore, all thinking, feeling, sympathizing humanity who have anything to do with horses, give these two subjects more careful attention in the future and thereby relieve much of the torture now inflicted upon man's best animal friend?

NOTE.—If this little book serves but the one purpose of supplying all horses that have to draw loads with perfectly fitting collars, the author will feel fully compensated for the time and labor he has devoted to the subject of the horse and his friends.

CHAPTER XXVI.

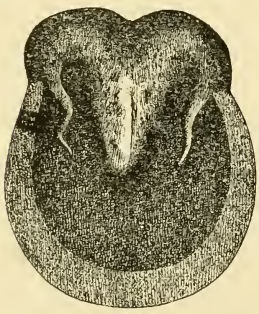
NATURAL FOOT OF THE HORSE AND HOW TO PRESERVE IT.

The foot of the horse is one of the most important (and least understood) part of his organization. It should be of proportionate size to the animal. The wall should be more or less upright, smooth, thick and tough, about twice the length at the toe that it is at the heel (from the hair to the ground surface), and well spread at the heel.

THE FROG AND SOLE NATURE'S PROTECTION OF THE FOOT.

The sole should be concave, and provided with good strong bars (braces) to aid the frog in its elastic action. The frog (nature's heel cushion, jar protector and heel spreader) should be large, smooth and elastic.

We here present cuts of the plantar (or bottom surface) of several feet, to show their difference in conformation and appearance to the careful observer.



The foot ready for the shoe, showing frog and bars as they should be left

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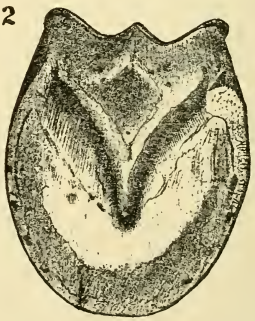


Sound but flat foot

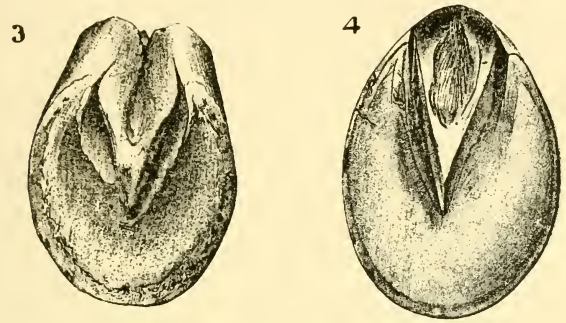
Cut No. 51.

GROUND SURFACE OF TWO FAIRLY GOOD FEET.

Fig. 1 shows the healthy, well-formed foot, ready for the fitting of the shoe without the use of the "butrass," or paring knife, leaving the frog,

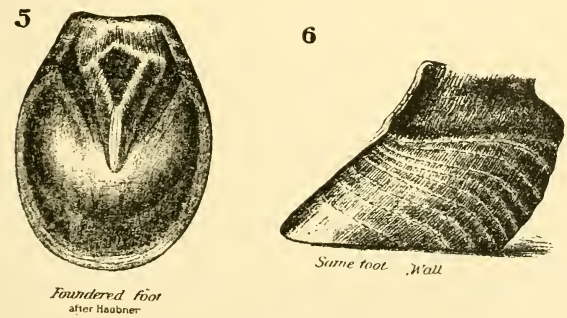
bars and sole in their natural condition, except just where the shoe bearing comes in contact with the foot. Cut. No. 51.

Fig. 2 represents a sound but rather flat foot. The heel is well spread, and the frog is large and elastic, which is of the first importance to the free movement of any horse. Cut No. 51.



Cut No. 52.
GROUND SURFACE OF TWO CONTRACTED FEET.

Fig. 3 shows the foot which has been shod with thick-keeled shoes, keeping the frog from coming in contact with the floor upon which the horse is forced to stand, or the hard road on which he must travel in his work. In this case the foot has been deprived of nature's cushion (the frog) for warding off a part of the jar to the column of bones above, and also nature's heel-spreader, the result of which is to bring the bearing upon the wall of the foot altogether, which produces more or less inflammation, and consequent absorption and contraction at the heel—the thinnest part of the wall. Cut No. 52.



Cut No. 53.
GROUND SPACE AND WALL OF FOUNDERED FOOT.

Fig. 4 represents the foot in a very badly contracted condition, from a similar cause, and to such a degree that it renders the horse comparatively worthless in his work, to say nothing of the constant suffering he must endure from the violation of the general laws to which he has been subjected at the hands of his owner, groom or blacksmith. Cut No. 52.

Figs. 5 and 6 show the sole (or plantar surface) and wall of the foundered foot. This, again, is no inherent fault of the horse, but is usually the result of bad handling, hard driving, standing when hot, exposed to draughts of air, drinking cold water when heated, etc.

The front feet should be a trifle larger than the hind ones, and on no account should one be permitted to grow out of proportion to its mate. Cut No. 53.

CARE IN THE EARLY LIFE OF THE HORSE IS A GREAT ADVANTAGE.

Attention to the horse's feet should commence in very early colthood, and continue through life. The wall of the foot should be frequently rasped down even with the sole, and kept level, to maintain perfectly sound feet and unblemished limbs. If the wall of the foot is kept shortened to its union with the sole there will be no necessity for cutting the bars, trimming the frog, or gouging out the sole; the horse will have a perfect bearing for the column of bones of every limb, stand firm, with his feet well under him, and move off unfalteringly.

KEEP THE COLT'S FEET LEVEL.

The colt's feet should be handled from the day of foaling, so that he will have no more hesitation in permitting his feet handled than to have the halter put upon his head; and as the horse without good feet is but a poor excuse at best, then why should not this most important part of his anatomy not have the very closest attention, particularly when his feet can be trimmed as quickly as a good job of grooming can be given his body?

TRIM THE COLT'S FEET OFTEN.

The work of trimming should be repeated once every two weeks, and on no account postponed longer than a month. A little work upon the feet, and often, will be more readily submitted to by the colt or horse (and not so much dreaded by his owner) than if let go until the horse has almost forgotten that he ever had his feet trimmed; and the owner will not be worn out before the job is completed.

The horse that has had his feet properly cared for in early life will require less shoeing and be more profitable to his owner.

CHAPTER XXVII.

SHOEING, AND ITS EFFECTS.

The form, construction and physiology of the horse's foot certainly indicate he was designed by nature to go bare-foot, but if, owing to the uses to which we put him, and the dry, hard roads over which he is compelled to travel, the wall of the foot wears away faster than it grows, something should be done to protect that part of his anatomy; and this protection should be continued, both for the comfort of the horse and profit to the owner, just so long as he is required to perform such service, and no longer.

THE UNSHOD HORSE SURER FOOTED THAN THE HORSE CONTINUALLY SHOD.

That the unshod horse, with good feet and of mature years, that has never known what it is to wear iron upon his feet, is surer footed, sounder in his action, and more perfectly gaited than the horse that has had the benefit of the experience of the best horseshoers, there is no question. But as circumstances and conditions call for our assistance in the care of the animal that plays such an important part in our civilization, we must consider the best means possible for his protection and preservation.

REFERENCE TO OUR LATE FRIEND, DR. WILLIAM DICKSON.

Owing to the high esteem in which we hold the sound judgment of our late lamented friend and co-worker of former years, Dr. William Dickson, of Litchfield, Minn., on this important subject, we shall make frequent reference to his report on this subject, to the bureau of animal industry, as our views were in such perfect accord. We feel it a just tribute he so fittingly merits. He says:

HORSE SHOEING AN INJURY TO THE HORSES' FEET.

"The system of horseshoeing as it obtains, even in the most skillful hands, is pregnant with mischief to the foot, which no one who is conversant with the facts will deny. Each time a horse is shod, every time a nail is driven, means so much injury to the foot. The better the job, the less the injury.

THE HORNY WALL, SOLE AND FROG SHOULD NOT BE MOLESTED.

"The horny wall, and that portion of the sole which is in immediate contact with it, on which the shoe should rest, are the only portions of

the foot to be interfered with in preparing it for the shoe, and all the trimming that is necessary can, and ought to, be effected by means of the rasp. The frog and sole should, on no pretext whatever, be meddled with, save to the extent indicated.

THE KNIFE, RASP AND LARGE NAILS ALL INJURE THE FEET OF THE HORSE.

"As the work is too often done, all over the country, the foot is pared to such an extent that it is robbed of its cushion, its natural expander; its lateral braces (bars) removed; its sole mangled, and its natural repair arrested; the hair-like fibres which make up the horny wall crushed and deflected, and their nutritive function impeded by an unnecessary number of nails. Robbed by the rasp of its cortical layer of natural varnish, which retains the moisture secreted by nature, the strong walls become weakened, and the foot is in a very sorry plight indeed."

FIG. 1.

FIG. 2.

FIG. 3.

Cut No. 54.

ILLUSTRATION OF GOOD AND BAD SHOEING.

Fig. 1, Cut No. 54, shows the foot well prepared and properly shod.

Fig. 2, Cut No. 54, represents the wall cut down in front to make the foot fit the shoe.

Fig. 3, Cut No. 54, is where the heels have been cut down and the toe allowed to grow entirely too long. One about as bad as the other.

RESULTS OF GOOD AND BAD SHOEING.

"Fig. 1, Cut No. 51, shows the only parts which should be reduced when a foot is properly prepared for the shoe. Sufficient care is not always given to shortening the hoof, so that its angle should conform exactly to the inclination of the limb. It would be misleading to lay down any arbitrary degree of obliquity."

THE CHARACTER OF THE WORKMAN OF VITAL IMPORTANCE.

Too much importance cannot possibly be attached by the workman to this and the succeeding step, namely, leveling the ground surface of the foot, as the slightest departure from absolute exactitude here renders whatever amount of care he may devote to the completion of his work worse than useless.

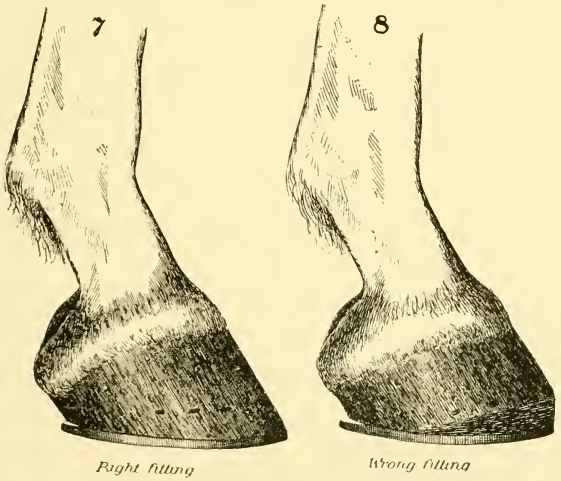
THE SHOE SHOULD BE AS LIGHT AND NARROW AS POSSIBLE AT THE HEEL.

"The shoe should be as light as the weight of the animal and the nature of the work he is expected to perform will admit of, as the legitimate mission of the shoe is to prevent undue wear of the walls, and a light shoe will do this quite as well as a heavy one.

"The upper surface of the shoe (the part that comes in contact with the foot) should be perfectly level, and should not be beveled in nor out."

THE SHOE MUST BE MADE TO FIT THE FOOT AND NOT THE FOOT TO THE SHOE.

"It would seem to be unnecessary to say that the shoe should be so shaped as to conform to the natural tread of the foot, yet a very common practice obtains of using a shoe of uniform shape (often less in circumference, if such a term is permissible, than the foot on which it is to be nailed), and then rasping down the foot to fit it, thereby robbing the walls of their natural covering, and permitting the escape of the moisture of the foot by evaporation. Disintegration follows, and then the wonder is why the foot will not retain a shoe as in the beginning! If the shoe fitted as it ought to do, the use of the rasp would be next to unnecessary, except, possibly, a very little under the clinches, and a small gouge would be better for that purpose."



Cut No. 55.

RIGHT ANGLE, BUT BOTH RIGHT AND WRONG FITTING.

Figs. 7 and 8, Cut No. 55, show correct and incorrect fitting, Fig. 7 being right and Fig. 8 wrong. A badly fitting shoe is to the horse as

painful as a tight fitting boot is to his owner, and under no circumstances should shoes be permitted to remain on more than a month, or five weeks at the outside, and some require to be reshod more frequently.

SMALL SIZED NAILS AND FEWER OF THEM THE BETTER.

"The nails should be of the smallest size and of the fewest number to insure the retention of the shoe the required length of time, and this is a rule that should never be departed from. If the foot has been properly leveled, it is surprising how few nails will hold the shoe in place, and as long as is required; but if the fitting has been carelessly done, it will be equally surprising how shot a time is required to loosen the clinches and the shoe.

"Two of the commonest errors in shoeing are the use of too many nails, and these of an altogether unnecessary size, and then driving them too high up into the walls."

LONG SHOES AND WIDE HEELS A DECIDED DISADVANTAGE.

Too many blacksmiths make what is called the "over heeled" shoes; that is, shoes with straight heels or calks wide apart and some distance back of the heel of the foot as well as at the sides near the heel, and their reasons for so doing is always in error.

NATURE MAKES NO MISTAKES IN RELATION TO THE FOOT OF THE HORSE.

Nature makes no mistakes. If the foot had needed the rear support they claim for it, the colt would have been foaled with that extension of the foot at the heel. And we want to imitate nature all we possibly can in relation to the foot of the horse, especially at and near the heel. Everybody seems to be afraid of injury to the horse's foot if not protected in some way, and this very so-called protection is doing more harm than could possibly be counted on if left in its natural form. Who ever saw corns or quarter-cracks in connection with the foot that had never been shod?

THE CHARLIER SHOE, OR TIP.

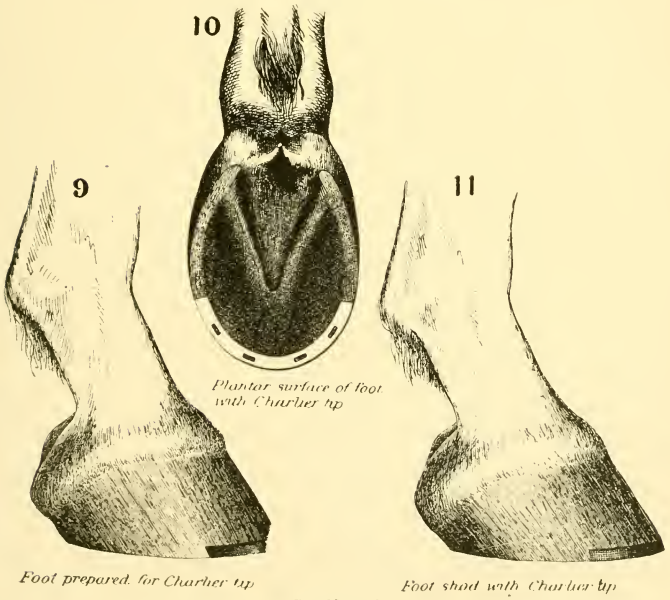
M. Charlier, of Paris, France, some years ago invented the tip, or short shoe, which bears his name, and Joseph Cairn Simpson (the well-known horseman of California), as well as many others, have used modifications of this shoe to their entire satisfaction.

In preparing the foot for the shoe and sole, the frog and bars are left, as they ought to be, absolutely untouched, and a groove is cut, by means of a knife specially designed for the purpose, in the wall, not high enough to reach above the sole level and the thickness of the wall in depth. Into this groove a narrow band of iron is sunk, and nailed to the foot by means of four to six conical-headed nails, the heads being countersunk in the shoe.

ADVANTAGES OF THE TIP OVER THE FULL SHOE.

The advantage of this method of shoeing is that the frog, bars and the greater portion of the sole come to the ground exactly as if the foot were unshod, and one and all participating in weight-bearing, as it was obviously intended they should, while the wall is protected from wear by the small rim of iron let into its ground surface. When the foot is shod in this manner, the frog obtains pressure to the extent contemplated by nature, and maintains all of its elastic action almost to the same extent as the unshod foot. Cut No. 56. Fig. 9 is a side view of the foot prepared for the tip, or short shoe. Fig. 10 represents the bottom of the foot with the tip attached, and Fig. 11 shows again a side view of the appearance of the foot after being shod.

REPRESENTATIONS OF THE CHARLIER TIP OR SHORT SHOE.



Cut No. 56.

NEVER MOLEST THE NATURAL COATING OF THE HORN OF THE FOOT.

"In its natural state the entire hoof, from the coronet to the sole level, is covered by a fine coating of natural varnish, thickest at the upper

margin and gradually becoming thinner as it descends. In a very dry atmosphere, like ours, it is of paramount importance that this beautiful shield should be preserved and fostered, and no name is bad enough for a senseless custom which, to serve no good purpose, robs the foot of a necessary protection which is beyond the power of art to imitate or replace."

MANNER OF SHOEING IN WINTER WHEN IT IS A NECESSITY.

Winter shoeing in this climate is almost a necessity, where heavy loads are to be drawn over wet, slippery or icy roads, but it should be remembered that the horse accustomed to going barefoot will maintain his footing better from the use of the elastic frog and bars of the foot than the horse not sharp shod. The shorter, smaller and sharper the calks of the shoe, sufficient for the catch, the better and safer for the horse. Long, heavy ties and calks on the shoe puts the horse up on stilts, and as they wear unever, more or less trouble ensues.

THE HORN OF THE FOOT AFFECTED BY SHOEING.

The horse that has worn shoes for a good long time is very apt to go lame without their protection. The growth of horn has been diminished and the material supplied for that purpose of an inferior character, and as the horn becomes harder (not tough) by shoeing, it is more rapidly worn away on hard roads. The horn of the natural unshod foot is easily cut with knife, but does not work with the rasp as well as the hard foot of the horse that wears shoes. The former is elastic and as pliable as a piece of whalebone, the latter is brittle and about as lifeless as the hoof of a dead horse, and soaking tubs nor poultices or oils will bring back the natural condition. The thousands of minute tubes that carry nourishment to the entire wall have been cut off or marred by the knife and nails.

CONTRACTED FEET THE RESULT OF BAD SHOEING.

As before stated, the outside of the horn is covered with an impervious enamel and retains the moisture of the foot when unmolested by the rasp, in trying to make what is called a finished job of the shoeing. No wonder we behold such a vast array of contracted feet. When we see that the natural unshod foot is strong and elastic, with a well developed and elastic frog of wedged-shaped form, which prevents contraction, while a sole that sheds off its old growth as fast as the new is formed, then why in the name of common sense should we deliberately go to work and rob the outside protection that nature has so wisely provided?

Nature's "buffer"—cushion for the foot—to ward off a part of the jar to the column of bones above, as well as to the foot itself, should always come in contact with the ground, whether the horse is shod or not, and on no account should the smith be permitted to trim and carve at this important elastic body, the frog. It is impossible in a work of this size and character to take up the different phases and styles of the shoeing question, much of which is yet in its experimental stages.

CHAPTER XXVIII.

FEEDING HORSES.

The amount of food given should be regulated by the size and breed of the animal, and by the amount and kind of work he is required to do. The horse has a small stomach in proportion to his size; hence, frequent feeding when under hard work is necessary.

THE HORSE SUFFERS MORE FROM HUNGER THAN MAN.

The human stomach can bear hunger far better than that of the horse. If when driving on a journey you feel hungry, you may be sure your horse has felt it before you did, and is needing his feed more than you.

Oats and hay are the ideal horse foods of our country, but because they are the best is no reason why they should be exclusively used.

VARIETY OF FEEDS IS AS MUCH RELISHED BY THE HORSE AS BY MAN.

Variety is often much relished by the horse, and, with this variety, cheapness and economy may be introduced. Good timothy hay, early cut and well cured, is the best hay for horses. Timothy hay is heavier than that of other grasses, and contains a larger quantity of nutritive matter in a small bulk. If left till it be over-ripe, it becomes hard and woody. It is more digestible when cut rather on the green side, and makes better horse feed.

FARMERS, AS A RULE, FEED TOO MUCH HAY.

Many farmers feed far too much hay to their horses. They might very well take a few lessons in this matter from the livery men, who find that their horses do better and keep healthier on a small allowance of hay.

AMOUNT OF HAY FED TO RACE HORSES.

Rase horses and others, in large stables, are fed on six to eight pounds of hay and from fifteen to twenty pounds of the best oats per day, and, if needed, a bran mash once a week,—one-third of the hay after exercise in the morning, the balance at night, and the oats fed at four feeds. For the work horse, more hay is given, up to ten pounds per day (six pounds loose and four pounds cut), and mixed with his oats, sixteen to eighteen pounds. Any farmer can see how much this differs from his feeding, and yet these horses are required to do hard work and make sudden exertions, taxing all their powers.

HORSES KEPT CONTINUOUSLY IN THE STABLE MUST BE FED WITH CARE.

When horses are in the stable much of the time, the feeding needs to be carefully managed. Swede turnips (rutabagas) are relished by horses, and seem better food for them than the carrot. They do well on roots when idle or at moderate work.

HORSES DO NOT NEED THEIR FOOD COOKED.

Cooking food for horses has not been found generally profitable. Careful experiments made years ago showed that horses do better on raw food. Crushed or ground oats are much used. Some horses have a tendency to bolt their feed half chewed, and some of the grain is voided whole in these cases. Grinding helps any such tendency.

RATIONS FOR HORSES IN LONDON.

In England some of the large companies, which work a great many horses, give mixed food, and use considerable quantities of American corn. The North Metropolitan Company (London) allows for each horse per day about the following rations: Corn, nine pounds; oats, seven pounds; peas, one pound; beans, one pound; hay, seven pounds; cut straw, three pounds; total, twenty-eight pounds. The South London Tramway Company gives corn, seven pounds; oats, seven pounds; beans, one pound; hay, eleven pounds; straw, three pounds; total, twenty-nine pounds.

FEEDING BRITISH CAVALRY HORSES.

That which needs special attention by our feeders is the quantity of hay fed and the desirability of using a small quantity of straw in the ration. British cavalry horses are allowed ten pounds of oats and twelve pounds of hay as an ordinary feed. If out on active service, the oats are increased to fifteen pounds. In private stables and on the farm it is better to give greater variety to the food, and the wise feeder will be guided by the season and the price of foods, in keeping his animals in the best of health at the least expense.,

LONDON TRAM AND BUS COMPANY FEED THEIR HORSES SEVEN TIMES A DAY.

The London County Council Tram and Bus management employs about 4,000 carefully-selected, stout, thick, muscular horses, weighing 1,150 to 1,250 pounds. These horses are fed as follows: Thirteen pounds of roughage per day, consisting of eleven and a half pounds of hay and one and a half pounds of straw, fourteen pounds of concentrates or grain, consisting of eight pounds of corn, four pounds of oats and two pounds of peas, all ground and mixed together. All hay and straw is cut, and all grain is fed mixed with cut hay or straw and moistened. The horses are fed seven times each day, extending from 5 a. m. to 8 p. m. Water is given always before every feed, and every time they come in from work. Rock salt is accessible at all times. The horses stand either on stone or vitrified brick floors, and are never permitted to lie down except

during the night, when the stalls are well bedded. During the day the bedding is all put forward under the manger. The average period of service at very exacting labor is about seven years. The stables contain from 100 to 200 horses each, located in various parts of the city, to be convenient to the numerous sections of the bus and tram lines. The manager travels over 10,000 miles a year in making his daily rounds.

MORTALITY FROM ALL CAUSES ONE-HALF OF ONE PER CENT.

The average percentage of loss from all causes with this company is one-half of one per cent annually, which is as low as could be expected under any regime.

FEEDS AND FEEDING.

Proper feeds—balanced rations—in relation to work or exercise is of the utmost importance in the care, development and health of our horses.

MUSCLE MAKING FOOD AND EXERCISE FOR THE COLTS.

The young growing animals need plenty of muscle and bone-making food, such as oats, bran, oil meal, beans, peas, clover, hay, etc., but they must have exercise in proportion to the food consumed. And it is impossible to grow a good strong, useful horse without plenty of exercise. The feed and exercise must always be considered together and the young growing animal should have plenty of both.

AFTER MATURITY, THE HORSE IS FED FOR HIS WORK AND MAINTENANCE.

After the horse is matured, then he is to be fed in proportion to the work to be performed, over and above that of maintenance. Like ourselves who eat our breakfast, dinner and supper and weigh the same, he is to be considered in the same light. If he is idle, we should feed him just enough to supply the waste material of the body, and no more, unless we wish to increase his weight, and this must be done carefully, or derangements of the digestion are likely to occur.

IDLENESS AND FAT, GREAT ENEMIES TO HORSES.

We here wish to caution every horseman who is working his horses hard and then suddenly gives them a period of idleness, that the grain ration should be cut down at least one half, and oftimes more would be better for the welfare of the animal. Probably more ailments of the horse are traceable to this, and the irregular hours of feeding than all else combined. Azaturia, and a host of other troubles are almost directly traceable to this one cause of high feeding and idleness—a waste of the food material, and too often the horse. It is a standing saying with the Arabs that "Rest and fat are the greatest enemies of the horse."

DIFFERENT HORSES NEED DIFFERENT FEEDS AND AMOUNTS.

Of course, there is a difference in horses; some will require more feed than others, and some will consume much more than they can digest and

assimilate. Here is where the "art" of feeding comes in. How often we have seen it exemplified.

ONE MAN WILL WORK FLESH OFF AND ANOTHER WILL WORK IT ON HORSES.

One man will take a team thin in flesh, work it hard and have the horses gain in flesh on much less feed than they had before. This shows that it is not so much the amount of feed given, as it is the properly balanced ration and the regularity with which they were fed, together with the manner of handling. Another will take the team in the height of condition of flesh and fit for their work, and in a short time the horses are seen to be dull and losing flesh, notwithstanding they had all the grain and hay they could consume.

RATION FOR THE WEANLING COLT, THE YEARLING, TWO AND THREE YEARS OLD.

Below we give a number of "Rations" in relation to the character of animal and work required, per day, for trotting bred stock:

Weanling Colt.—Two to three pounds of oats. Hay all it will eat.

Yearling Colt.—Four to five pounds of oats. Hay all it will eat.

Two-yearColt.—Six to seven pounds of oats. Hay all it will eat.

Three-year Colt in Training.—Nine to twelve pounds of oats. Hay somewhat limited.

Horse in Races.—Ten to fourteen pounds of oats. Hay somewhat limited.

Road Horse.—Eight to ten pounds of oats. Hay, ten to twelve pounds.

Carriage Horse.—Ten to twelve pounds of oats. Hay, twelve to fourteen pounds.

Farm Horse at Heavy Work.—Twelve to fourteen pounds of oats, three pounds of corn. Hay, thirteen to fifteen pounds.

Draft Horse at Heavy Work.—Fourteen to sixteen pounds of oats, five pounds of corn. Hay, sixteen to eighteen pounds.

VALUE OF BRAN AND BRAN-MASHES FOR HORSES.

The addition to the above, of one to five pounds of bran per day considering the animal, the condition of the bowels and the character of the hay, will often prove very advantageous. An occasional bran-mash for any indications of a feverish condition must not be neglected.

The question of feeding is largely a matter of regularity and close observation of conditions and food stuff.

Cooked food is not to be thought of, except in case of sickness or the old and comparatively toothless animals. The horse has both a good mill, and digestive apparatus when properly fed and handled.

CHAPTER XXIX.

FATTENING HORSES FOR MARKET.

It has become quite common to stall-feed horses for the market, very much as cattle are prepared, and it is said "fat covers up a multitude of defects," to the buyer.

Mr. H. W. Brattell, of Iowa, has given the subject of fattening horses close attention, and furnishes the results of his observations as follows:

HORSES FED GRAIN FIVE TIMES PER DAY.

"They are put in the barn and fed gradually, as great care must be taken for a few days to avoid colic. It seems most profitable to feed grain about five times per day, due to the fact that, the stomach of a horse being proportionately smaller than the stomach of a cow, he needs his feed in smaller quantities, or as the old quotation is, 'Little and often.' The hay, of course, they have access to at any time, by filling the racks twice a day. They also are given all the water they will drink, twice a day.

CORN A GREAT FACTOR IN FATTENING HORSES.

"Corn is given at 5 a. m., then water at 7; at 9 fill all the hayracks and give oats and bran, the proportion being two-thirds bran and one-third oats. Then at 12 feed corn again; at 3 p. m. feed oats and bran, and also refill the hayracks. At 4 p. m. give second watering, and at 6 the last feed of corn is given. The proportion for each horse when upon full feed is as follows: Corn, from ten to fourteen ears at each feed, oats and bran, about three quarts per feed.

GLAUBER SALTS SUBSTITUTED FOR EXERCISE.

Another point of great importance comes into consideration where a large unmber of horses are fed: It is almost impossible to give them all sufficient exercise, and so, as a rule, they are given no exercise from the time they are put in the barn until a few days before they are to be shipped. So something must be given as a substitute for the exercise in order to keep the blood in good order, or else "stocked" legs will be one of the first troubles. Glauber salts will in most cases prevent this trouble, and, mixed with the oats and bran, the horses will eat them quite readily. These salts are fed about twice per week at equal intervals, giving about one-half or three-fourths of a pint at each feed. These salts can be bought very cheap by having your druggist order them for you at wholesale prices. They are not nearly so strong as the epsom salts, but they have a very desirable and cooling effect upon the blood.

OIL-MEAL IS FED TO SOFTEN THE SKIN.

"Oil-meal may also be given to good advantage, as it aids greatly in putting on flesh, and also gives the skin a soft and mellow touch. All mangers and feed boxes should be cleaned out twice a day, and the cobs and other refuse thrown out behind the horses and taken out with the manure. By all means give the horses sufficient time for their stomachs to rest, and this can be done by giving the first feed at 5 in the morning and the last between 6 and 7 at night.

FLOATING THE TEETH, THAT HORSES MAY GRIND THEIR FEED WELL.

Another point that ought to be mentioned is floating the teeth, when the horses are put in, and before commencing to feed them. It is best to get a veterinarian to do this, as he has the proper instruments, and where there are so many to do, it can be done more rapidly. Floating the teeth is a point which a great many people overlook, and is in many instances the real cause of a horse being out of condition. When a horse has a number of sharp projections on his teeth, the gums become raw and sore, so that he does not masticate his feed thoroughly, and consequently indigestion often results, and the horse runs down in condition. In a load of horses shipped from Kansas it was found upon examination that a large number of them had sharp projections on the outer edge of the grinders, and their mouths were in such a condition that a person would wonder how they could eat at all; but after they were floated down quite a marked change was soon noticed. I think it will pay better to put the horses' teeth in shape, and let them do their own grinding, than it will to grind the grain for them.

GAINED AS HIGH AS FIVE AND A HALF POUNDS WEIGHT PER DAY.

"When horses are fed in this manner, good gains are generally realized. In one instance a horse fed in this manner made a gain of five and one-half pounds per day for a period of fifty days, or in 100 days he gained 550 pounds. And in several instances, with as many as a dozen head, a gain of three and one-third pounds per day for a period of ninety days was obtained.

IS THIS STUFFING PROCESS GENERALLY OF ADVANTAGE?

This stuffing without exercise may enable the feeder to get the horse in condition to go onto the market for sale at a good profit for his feed and trouble, but how will it be with the buyer who wants to put the horse (so prepared) at hard work?

FEEDING WORK HORSES.

This is a subject in which every horseman is, or should be, particularly interested; but it is a subject about which there is a great diversity of opinion and theory, much of which is unworthy of consideration. That there is a right way of feeding is demonstrated both in this

country and in Europe, where large numbers of horses are kept for hard work, fed regularly by close observers, whose business it is to do the best for the horses, their work and their owners.

WATER THE WORK HORSES BEFORE FEEDING.

When it is understood that the stomach of the horse can contain only from three to three and one-half gallons, then it becomes apparent that we must study the best methods of keeping him in health and strength for the labor required of him, largely in the manner in which we water and feed him. It is always best to water some time before feeding.

TOO MANY HORSES ARE OVER-FED.

A great proportion of our horses are over-fed, many under-fed, and but few out of the whole that are fed to the advantage of the horse and owner. Horses are frequently fed as much as thirty or forty pounds of hay in twenty-four hours, when twelve to twenty pounds is enough for the majority of horses that are working hard; and as much as a bushel, and sometimes more, of grain is given daily to each horse, when one-half of the amount would be ample.

THE FEEDING SHOULD ACCORD WITH CONDITIONS.

One of the greatest and most frequent mistakes is in over-feeding our horses, especially when idle or exhausted from hard work. It requires vital energy to digest a heavy feed, as well as to perform hard work, and when the horse is very tired it is bad practice to give him a large feed until he is rested.

WORKING HORSES SHOULD BE FED LESS WHEN IDLE.

It is also a great mistake to feed our horses the same amount of grain when idle for a few days (especially if in good flesh), after regular work or exercise, as this is the very cause of that dread disease called azaturia, which almost always attacks the best conditioned horse, and if it does not kill him, it will deprive his owner of his use for a considerable time.

NINTY PER CENT OF ACUTE SICKNESS THE RESULT OF OVER-FEEDING.

It is of the utmost importance that we study carefully the best methods of feeding our horses when at hard work, when idle, and during the winter when they are but little used; thereby saving the frequent calls of the veterinarian, drug bills and condition powders. It is the almost universal statement of veterinarians, that ninety per cent of the acute cases that they are called to treat is caused from over-feeding.

VALUE OF A BRAN MASH.

If the horses cannot have green grass once or twice a week (nature's great regulator), they should have a bran mash instead. But a s hired help will often leave enough mash in the tub or manger to fer-

ment, we have found that dry bran, mixed with the oats and corn, gives excellent results and protects against dangers that come from feeding stale or musty mash.

AN EXPERIMENT WITH OMNIBUS HORSES.

Some years ago an experiment was made by the London Omnibus Comapny on 6,000 horses, to test the relative value between cut hay and ground grain and whole grain and hay. They first divided the horses, and 3,000 were fed the ground grain and cut hay, and the other 3,000 were fed the whole grain and hay, giving the latter nineteen pounds of oats and thirteen pounds of hay daily, and the others were fed sixteen pounds ground oats, seven and one-half pounds cut hay, and two and one-half pounds cut straw. The first lot of horses got thirty-two pounds, each, daily, and the latter only twenty-six pounds all told, and yet they kept up well in flesh and stood their work equally well with the former.

SAVINGS IN ECONOMIC FEEDING.

The above system would make a saving of six pounds on each horse daily, and counting this worth in that market five cents, there would be a saving of $300 per day on the 6,000 horses.

AN EXPERIMENT WITH MILL HORSES.

Another experiment was made with heavy mill horses, by wetting the cut hay and thoroughly soaking it for twelve hours before feeding, mixing the ground feed with the wet cut hay just before feeding.

JUST THE RIGHT QUANTITY AND QUALITY OF FEED SHOULD BE STUDIED.

In the above, the ration for each horse, to start with, was four pounds dry cut hay, five pounds ground oats and barley, and a half pound of brain, night and morning, and four pounds dry whole oats at noon, without hay. This proved hardly sufficient for the large horses and their heavy work, and it was afterwards incerased to five pounds hay, five pounds ground grain and a half pound of brain, night and morning, and eight pounds oats, without hay, at noon, to the perfect satisfaction of the owners of the horses and ample feed for the largest horses doing the heaviest work.

HORSES CAN BE WEEL OR MADE SICK BY FEEDS AND FEEDING.

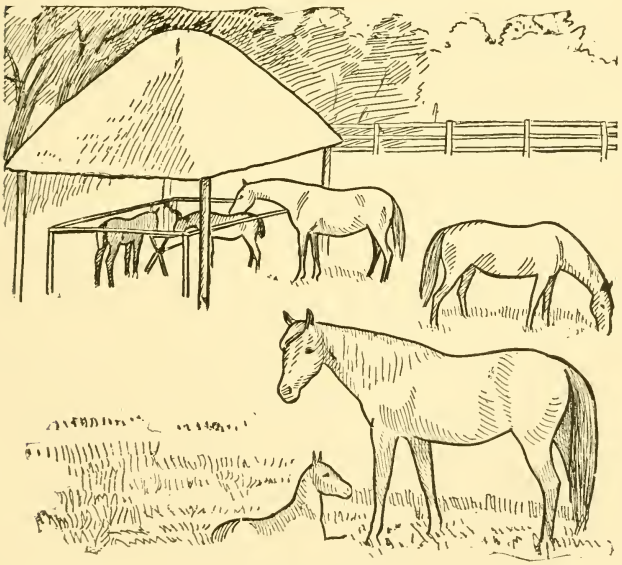
The above experiment proved to be a saving of ten pounds of hay and six pounds of grain daily to each horse, over the old whole grain and hay method, besides under the old system many horses were sick with colic and inflammation of the stomach and bowels, and for years a sick horse has not been seen, since the new system has been adopted. We would say, however, that no fixed and definite rules can be laid down for feeding all horses, but by careful attention to the manner in which they eat and the condition of the bowels, every farmer may become quite a master of the art of feeding.

METHOD OF FEEDING THE LITTLE COLTS.

When the pasture gets short during the dry weather of summer, both mares and colts shrink in flesh unless something is done for them. It is a good time to get the little colts to eating grain, and we here show a practical method in the picture of accomplishing the desired object with little or no trouble.

FEED THE LITTLE COLTS GRAIN IN A SMALL YARD BY THEMSELVES.

Fence in a small yard or pen with one rail or plank on each side, high enough for the colts to run under, and still high enough so the mares will not get over. Put a box or trough in the center of this yard and place some grain in it, and the colts will soon get there, and learn to eat, by having access to this place every time the stock comes to the lot. In this manner the little colts are kept growing, and when weaning time comes they are accustomed to grain feeding, and will keep on growing with scarcely any falling off. See Cut No. 57.



Cut No. 57.
FEEDING YARD FOR COLTS.

FEEDING COLTS.

There is no more important subject in relation to the future usefulness of the horse than his growth, which is largely dependent on the feed he gets after weaning time.

GROW THE FRAME-WORK OF THE COLTS FIRST.

Bone and muscle-making food is the most essential element required, and one or two quarts of sweet skim-milk, together with the grain ration of ground oats, barley, or corn and bran, will keep the colt growing continuously, and thereby avoid that shrinkage that usually follows the weaning period. Three or four pounds of good, sweet hay, two or three pounds of oats and one of barley or corn ground, and a half pound of bran, with the four quarts (not more) of skim milk daily, varied to suit the size and make-up of the colt, will keep him growing finely, and be very much better than if twice the amount had been given. Don't think because skim milk is cheap and the colt likes it, that the more it will drink the better. The stomach must not be distended beyond activity. Enough is enough, and too much is a damage.

DON'T TRY TO GROW COLTS ON HAY AND WATER ALONE.

Large quantities of ordinary hay or straw and water is what produces the ordinary stunted, pot-bellied orphan colt so often pointed out as the scrub, when he may be well bred, and if properly attended to, could have been made as good as many of the others. Regularity in feeding is of far more importance in the growth of the colt than increased quantity of feed.

DON'T GIVE THE WEANLING COLTS LARGE AMOUNTS OF WATER AT A TIME.

One very common error is giving the weanlings far too much water at one time, which deranges their digestion, depraves their appetites, and develops their bodies like "poisoned pups."

EXERCISE THE COLTS.

Exercise for the growing colts is of equal importance to their feed, and should be as regular as the weather will permit. If the weather is very severe, the colts must not be exposed long enough to become thoroughly chilled, but it is a very pernicious habit to keep the colts in the stable for days at a time and feed them heavily, as it will tell a sad tale on their legs, that may require months to recover from.

WEANING THE LITTLE COLTS.

If you take the colts away out of sight of the dams in weaning, it should be done in the morning, if there are several of them and it can be done, two colts should be put together in box stalls. One will be lonesome, two will be company and three is a crowd and trouble will ensue.

LEAVE THE COLTS TWELVE HOURS BEFORE OFFERING FEED OR DRINK.

In the evening after the colts have been weaned in the morning take some warm skim milk sweetened, and with a little in a shallow pan, hold under the colt's nose and with a sudden movement of the pan upwards, dip its nose into the milk and take the pan away. Repeat this several times, until the colt gets a taste of the milk and then it will drink readily, as it is thirsty. Offer no water and if it will not take the milk in the evening, wait until the next morning and there will be no trouble, if it is done as before directed.

SKIM MILK FURTHER CONSIDERED.

In closing this subject of feeding the colts, it is important to add, that the real value in cow's skim milk, for the little colts at weaning time (afterwards, too) can scarcely be estimated. Cow's skim milk (not whole milk), comes nearer the natural food of the dam than any other we can furnish, and if given in moderate quantities daily, the weanling colts will never shrink in their growth, and you will be surprised to see how well they will grow and prefer the milk to any other food. Milk is 87 per cent water, and if we depend too much on the milk the colt will have to take so much of it that it will do no good. While the milk is splended feed, we must depend on grain for the more concentrated nutriment. They properly go together.

CHAPTER XXX.

DEVICES, MEANS AND METHODS FOR CONTROLLING OUR HORSES.

For the want of a proper education when young, together with the careless handling and abuse of our horses, they contract habits that are both dangerous to themselves, their companions and those who handle them.

STUDY TO AVOID INCONVENIENCE AND PUNISHMENT.

It should be our purpose all through life to carefully study horses' habits and the laws of their control, with the least possible inconvenience and punishment, and we will be thoroughly convinced that the simplest and most effective means of control, is through devices that harmonize with the laws of their organization.

WE SHOULD NEVER BATTLE WITH OUR HORSES.

The horses' strength being superior to that of man, precludes, at once, the idea that we should ever go to battle with him on anything like equal grounds; in fact, we would discourage the idea of ever getting into the fight with our horses, for this reason; since they are endowed with the same passions as ourselves, such as resentment, courage, revenge, etc., etc., we must banish the idea that our horses are "mere brutes" to be yanked, kicked and pounded at will, without the remembrance of the event being stored up by them, for some opportunity when they will have the best of us.

HORSES ENDOWED WITH INTELLIGENCE, SENTIMENT AND PASSION.

Horses are not only endowed with passions, but intellect as well, and just in proportion to this latter endowment, and their educational advantages, is the true value of the horse.

WE ESTIMATE BOTH MEN AND HORSES, BY THEIR ABILITY AND EDUCATION.

We estimate men by their natural ability and education, then why not apply the same rule to our horses? We have good and bad citizens, and for the bad, we have made laws and prisons for their control, and if we would correct the bad habits of our horses, we must use the means with which to overcome their muscular power without injury, or arousing their passion toward us, as is naturally engendered by whipping, "yanking" and kicking. Let us so confine them that they have to

operate against themselves rather than us, and, the results will be much more satisfactory than the usual methods of either indulgence or punishment.

THE USEFULNESS OF OUR HORSES DEPENDS ON THEIR EARLY EDUCATION.

The usefulness of our horse is, to a marked degree, just what we make it. We do not advise letting our horses control us by their superior strength, neither do we encourage the idea of conquering our horses by punishment and abuse. The true principle of control of horses for the best results, is by such means as will deprive them of their power to oppose us, and our kind and humane treatment of them whenever we are in close contact with them. Whenever we get our horses into trouble, confinement or entanglement, it is far better to be away from them during their efforts to liberate themselves, and, when they find all efforts fruitless, then is the proper time to go to their assistance, and relieve them of any entanglement or uncomfortable position they may have got into in the struggle, bearing this one principle in mind strictly, we become masters of the situation, if our means and methods are practically applied.

WE MUST ALWAYS BE SURE WE HAVE THE MEANS OF CONTROL.

One point of great importance in the management of horses, is to be sure we have the absolute means of control, without failure either of principle, method or appliance, and when these are properly applied, any except insane horses will readily become subservient to the reasonable requests of man.

EDUCATION OF THE HORSE IN THE STALL.

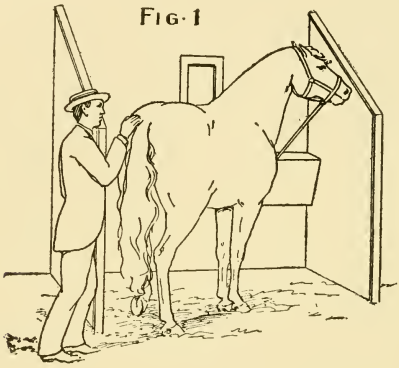
It is a great satisfaction to any owner of a good horse to have him understand and promptly comply with all requests while in the stall, without excitement, irritation or annoyance. One of our first duties is to show the horse what we want of him in the stall and how he should comply. After tying him to the manger and getting out of the stall, the next thing is to get back into the stall on either side without his resenting or crowding us in the stall.

MANY COLTS SPOILED THE FIRST DAY IN THE STABLE.

Many a colt has been forever spoiled the first day he was in the stable, by the treatment he has received in trying to get him to stand over in the stall. It is usually commenced by trying to push him over from side to side; but if we have not strength enought to overcome this, then we are too apt to resort to the whip, fork-handle or club to accomplish the desired result, and by this last means frequently make a bad actor in the stall forever.

HORSE REFUSING ADMISSION INTO THE STALL.

The first illustration (Fig. 1, Cut No. 58), is designed to show not only the position frequently taken by the horse in the stall, but the expression and dangerous action towards any one who may desire to enter. He not only refuses to stand over, but indicates that he will kick if he is interfered with.



Cut No. 58.

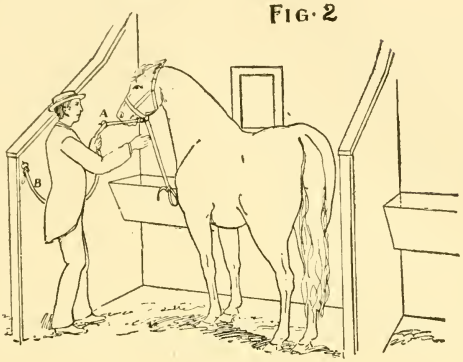
What is to be done? Shall we go at him with a club, to teach him what we want him to do? Or shall we anticipate the difficulty, and before placing him in the stall provide the means of easy control, as shown in our illustration (Fig. 2, Cut No. 59)? This consists of a staple and ring just over the manager (to which his halter should be tied) about as high up on the side of the stall as his back. Another ring and staple at the rear end of the stall partition (see letters A and B), then tie a rope or strap into the ring of the nose band of the halter, pass it through the ring A and back to the ring B, to which tie sufficiently long to enable the horse to eat along the entire length of the manger.

THE HORSE ADMITS ENTRANCE TO THE STALL WITHOUT OBJECTION.

When we go to enter the stall, we should place our hand on him, as represented in Fig. 1, Cut No. 58, and if he refuses to stand over, we reach forward as far as possible in the stall and grasp this side-rope or strap and at the very instant we say "stand over" we must pull on the rope, which will bring his nose to the side of the stall to which the rope is attached, and by a slight push at the hind quarter he is forced in the opposite position in the stall, and we can step in by his side with perfect safety from kicking, fighting or crowding (see Fig. 2, Cut No. 59) and this followed up for a few days (often repeated) the horse

readily stands over in the stall to the right whenever requested, without fear, excitement or resentment.

FIG. 2



Cut No. 59.

EDUCATE THE HORSE ON ONE SIDE THEN ON THE OTHER.

When he has fully learned what we want from one side of the stall, then we should change the rope to the other side of the stall and proceed as before, and we are soon well paid for our trouble, in having a horse that promptly responds to our every wish in standing over in the stall.

SIMPLICITY OF METHOD MAKES IT WORTH TRYING.

This remedy for crowding in the stall is so simple and practical that it is a surprise that any horse is permitted to continue the habit. The principle is, that when we pull the head up and to one side of the stall it is perfectly natural and easy that the rear end must go to the opposite side which gives room and safety to enter. We must not try to whip to submission, but use the means that control the actions, treat kindly, and success will crown our efforts, in the management of our horses in the stable.

THE HALTER-PULLER.

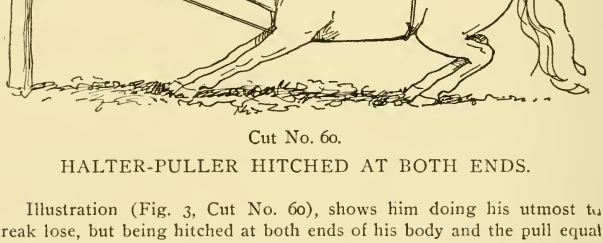
This habit when once confirmed is quite difficult to entirely eradicate. The first way to avoid this bad habit is proper education to the halter when young.

THE CONFIRMED HALTER-PULLER CAN BE CURED.

When we have a confirmed halter-puller, in the stable or out of doors, the best method is to take a rope ten or twelve feet long and three-eighths to one-half inch in diameter, tie a knot in one end, then a loop that will not slip, or a ring tied in the end will do as well. Place

this rope around the body of the horse just in front of the hips, with the slip immediately under the body at the flank; then pass the rope along under the body, between the fore legs, under the noseband of the halter, then through the ring or hole of the manger or post to which we want to hitch him and back to the ring of the head-stall, and tie so as to give him about three feet between his head and the place to where he is hitched—all as shown in Figures 3 and 4, Cuts No. 60 and 61. Whatever he is afraid of may now be brought in front of him, and instead of waiting to see how hard he will pull, we start for him and don't stop until we reach the point to where he is hitched, at which time, nine times in ten he will be there to meet us; as he will only pull while one breath lasts him, when he must come forward for relief.

FIG. 3



Cut No. 60.

HALTER-PULLER HITCHED AT BOTH ENDS.

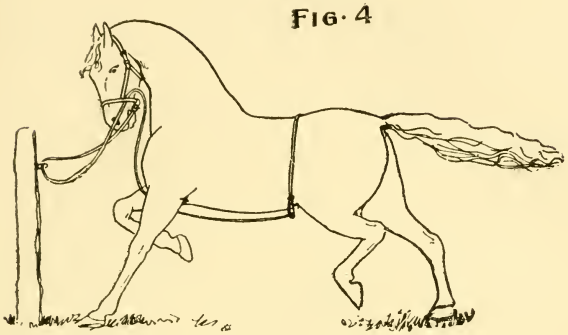
Illustration (Fig. 3, Cut No. 60), shows him doing his utmost to break lose, but being hitched at both ends of his body and the pull equal at front and rear, he suddenly leaps forward to relieve the pressure at the rear end and appears a shown in Fig. 4, Cut No. 61, with an entire change of expression and demeanor. He may try it two or three times, always with the same results.

A MERE STRING WILL BE SUFFICIENT TO HOLD THE HORSE.

The horse may now be tied with a halter-strap that will break at only a moderate pull, with the rope from his body secured to the hitching post or manger, so that the pull on his head comes first, and when the halter strap breaks he comes suddenly into the hitch around his body, which so surprises him that, in a few days, by hitching with a still weaker and weaker tie-strap, he cannot be induced to pull enough to break a mere string. The hitch around his body should not be neglected for quite a time, so that if he should pull back and break loose, and get away, he has intelligence enough to know when the rope is around his body and when it is not.

HALTER-PULLER SURPRISED FROM THE EFFECT OF THE REAR HITCH.

FIG. 4



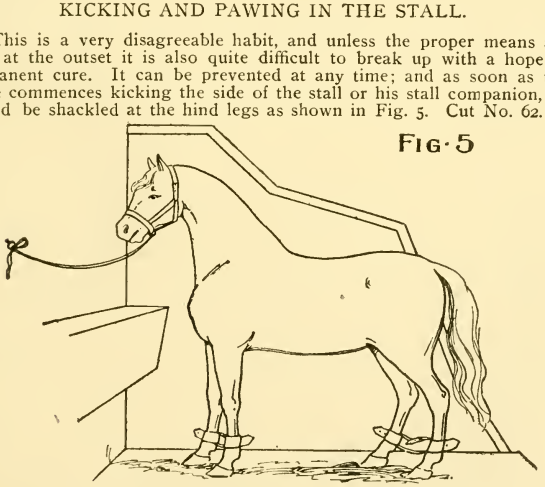
Cut No. 61.

We must not hurt him, nor should we give way for him when he pulls; but rather follow him up to show him that he cannot get away from his object of fright, which soon convinces him that his efforts are fruitless.

KICKING AND PAWING IN THE STALL.

This is a very disagreeable habit, and unless the proper means are used at the outset it is also quite difficult to break up with a hope of permanent cure. It can be prevented at any time; and as soon as the horse commences kicking the side of the stall or his stall companion, he should be shackled at the hind legs as shown in Fig. 5. Cut No. 62.

FIG. 5



Cut No. 62.
THE HORSE SHACKLED IN HIS STALL.

This is done with a good, strong strap buckled around each hind leg above the ankle joints, with a coupling strap between, as shown in Cut. No. 62 and will effectually prevent it, and if persevered in its use will usually cure the habit. This is better than a short chain.

Pawing is prevented by shackling the front legs in the same manner as shown also in Fig. 5. Cut No. 62.

How frequently we see a pair of sharp shod horses put into a stall together and very soon find one, or both, so badly cut from kicking as to render them unserviceable. Now, this could be prevented by shackles on the hind legs of both, and still giving them sufficient liberty to step about the stall or lie down and get up. It is best, however, to first put the shackles on for once or twice before getting sharp shod to get them used to them and to prevent calking themselves. Many a valuable young horse has been ruined in the hind legs from kicking the stall, generally acquiring the habit for the want of exercise. He has no chance to exercise, consequently he goes to kicking the stall until it becomes a confirmed habit. Pawing in the stall results generally from the same cause. The shackles are very effectual with no danger after the first few minutes, and then only from self-calking. A trial will convince the most skeptical. This is a wonderful remedy for wilfully vicious horses, as it renders them perfectly harmless, like the handcuffed and shackled prisoner. We should treat these horses kindly but firmly and go about them with perfect indifference, which we can do, under the circumstances.

REMEMBER THE NATURAL LAW OF FORWARD AND BACKWARD MOVEMENTS.

Right here, we want to say to our readers that there is a principle with horses, that whatever happens at the front part of their bodies impels them backward, and at the rear part induces them to move forward, and with this ever in mind it will greatly aid us in all dealings with our horses.

EDUCATING THE HORSE TO BACK.

Almost everybody endeavors to educate their horses to back by pulling on the reins, and in the majority of cases they are successful; but there are many horses that do not understand what is wanted of them when in harness and become sullen, and then it is almost an impossibility to force them backwards by the bits.

DON'T HURT THE HORSE'S MOUTH TO GET HIM TO BACK.

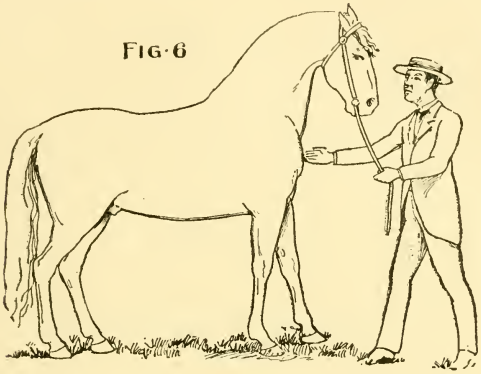
A very simple and effectual method is to stand in front of the horse and, by only a gentle pressure on the bit with one hand, and a push with the extended fingers of the other hand between the point of the shoulder and breast-bone, he will readily go backward as shown in Fig. 9. Cut No. 63.

THE HORSE BACKS IN COMPLIANCE WITH NATURAL LAW.

In giving this lesson we should always associate the pressure of the fingers with the word "back," and in a very few minutes the horse rea-

lizes our wants and moves backward at the word alone. If we have a sluggish or sullen horse a piece of wood (not sharp) may be used to advantage instead of the fingers, but usually the fingers alone are sufficient. Don't make the lesson very long, at first, and by the third or fourth trial the horse will respond to the word, together with gentle pressure on the bit.

FIG·6



Cut No. 63.

DON'T PUNISH THE HORSE TO BACK, AS BACKING IS AN ART.

It is altogether wrong to "jerk" or "see-saw" the bit through the mouth to get the horse to back, when one, two or three lessons, as indicated, will make a willing servant in backing the horse without punishment or excitement. With the horse, backing is an art, and must be cultivated with great patience to make a complete success.

When we consider the horse in harness, cramped at the mouth with the bit and at the rear by a breechen and then asked to back a load, for the first time, is it at all surprising that he gets confused and don't know what to do? Add to the punishment at the mouth with the bit, that of the whip and what can we expect him to do, but go up into the air and throw himself?

CHAPTER XXXI.

CONTROLLING THE ACTIONS OF THE HORSE BY HIS TAIL.

There are other uses for a horse's tail than to brush off the flies. In our hands it becomes a great medium for controlling the actions of the horse. Experience with plains' horses is, that there is no other means by which we can accomplish so much in so short a time, as by hitching the subject's head to his own tail so close that he is obliged to gyrate or whirl around in a very small compass. Yes, but the natural query comes to almost everybody, how are we to accomplish this connection of head and tail without danger of getting hurt? The answer is, that it is best done the very first time he is ever caught with the lasso, and then he should never again have his liberty until he is thoroughly acquainted with his controller, man. This thing of catching the wild horse and then letting him go again and again, soon educates him to have a dread fear of man; besides, he is very apt to learn how to evade the fatal noose, which only serves to make him the more dangerous whenever anything out of the ordinary routine of his experience transpires.

LET THE HORSE RUN AWAY IN A CIRCLE.

When he is lassoed and thrown is just the time to put the halter on his head and secure it to his tail before letting him up. Then, with a long, limber pole, something like a fishing-rod, we begin his education. See Cut No. 66. He has the use of his legs—his means of escape and defense—and at our approach and the touch of the pole he attempts to get away by flight; but his run away is only in a small circle, and, notwithstanding he exerts himself to the utmost of his ability, he does not succeed in getting away from the touch of the pole. If he attempts to kick or strike at the pole he is almost certain to fall, which, of itself is an admonition that he had better not repeat that action.

POLING THE HORSE A GREAT FEATURE IF WELL DONE.

This whirling motion requires but a very few minutes to render him so dizzy he must either stop or fall, and he generally prefers the former; but in either case, when he stops is the time we should bring it in contact with every part of his body—as advised with the young colt and like the use of the hand in our first visit to him when he is but one hour or one day old—and as soon as the wild horse finds that the pole does not hurt him, and he has done his very best to get away from it and failed,

he becomes more docile, and we may now be able to get near enough to him to touch him with the hand. But it is far better to use articles of clothing, such as an old vest, a pair of pants, a coat or a hat securely fastened to shorter poles, and show him that he cannot get away from any of these. We will very soon find that he makes less and less exertion at each attempt with new objects until finally we get our hands on him.

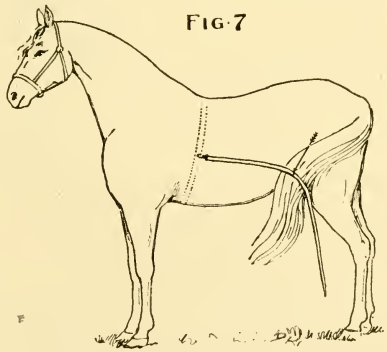
WITHOUT MISTAKES, HALF AN HOUR IS AS GOOD AS THREE MONTHS.

If we make no mistakes, in half an hour we have accomplished more in satisfying the wild horse that his attempts to get away from man are fruitless, than would be accomplished in three months by the ordinary process of "breaking," and no danger to horse or man of a serious character.

A SUCCESSFUL METHOD OF FASTENING THE TIE-STRAP INTO THE TAIL.

The successful manner of tying the halter-strap or rope to the tail, is so important that we have made illustrations to show to a certainty just how it should be done for convenience and security. We puzzled our brain more than thirty-five years ago to evolve this knot, or manner of tying, for this purpose. See cuts No. 64 and 65.

FIG·7



Cut No. 64.

MANNER OF TYING THE HALTER STRAP TO THE TAIL.

Of course there are a number of methods, but this is conceded the best, easiest, surest and safest, and is the one we have used for many, many years.

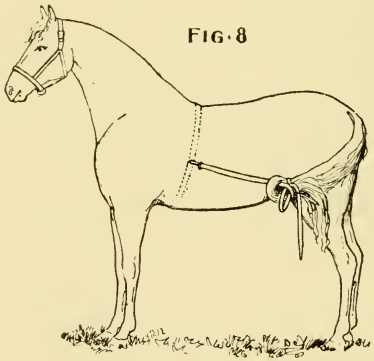
MEASURE THE DISTANCE FROM END OF TAIL-BONE TO GIRTH-PLACE.

A tie-strap with a snap attachment to the head stall of the halter is preferable. Detach the tie-strap from the head-stall, then grasp all the

hair of the tail just below the termination of the tail-bone, pull the tail around to the side of the horse and lay the strap across the tail with the snap-end just about where the girth or sursingle should encircle the body as shown in Fig. 7, Cut No. 64. Mark the strap as shown by the arrow, so as to preserve this proper length; then turn all the hair of the tail back towards the body and hold with the left hand, while we reach under and bring the other or tapering end of the strap around the tail, and

READY TO TIE KNOT IN THE TAIL WITH THE HALTER STRAP.

tuck under as shown in Fig. 8, Cut No. 65. This is a knot that is very easily tied, perfectly secure, and instantly untied by pulling on the pendant end of the strap, and we also have hold of the horse by the head at the same time when thus untied.



Cut No. 65.

THE HORSE READY TO HAVE HIS HEAD AND TAIL HITCHED TOGETHER.

When we have the knot tied and the strap of the proper length to attach to the halter, we are ready for active operations.

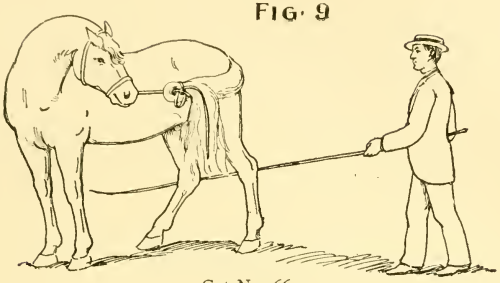
It is always best to select some place free from stones, posts or other objects of injury, and then suddenly bring the horse's head far enough around to his side to attach the snap to the ring of the halter and let him go. Then, with the long, slender pole, we can approach him near enough so that the legs of the horse come in contact with the pole at every turn, as shown in Fig. 9, Cut No. 66.

MAKING THE HORSE FAMILIAR WITH OTHER OBJECTS.

After he becomes familiar with the pole, then we bring other objects of all kinds to him until he no longer exerts himself to get away, and then we should begin handling his legs on the side to which his

head is inclined; first, by the use of a soft strap, he will allow us to lift his fore and hind leg then with the hand.

FIG. 9



Cut No. 66.

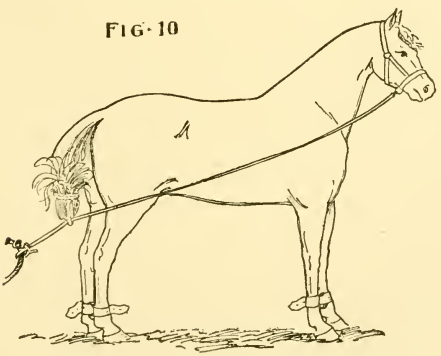
POLING THE WILD OR NERVOUS HORSE.

If the horse is a sensitive, touchy, wild fellow, he will make desperate exertions to get away from the pole, but if we attend to business and follow him up, he does all the work and we look calmly on until he stops or falls, when we try to touch all parts of his body without hurting him with the pole.

TURN THE HORSE THE OTHER DIRECTION.

It is often good practice to unsnap from that side securing his head and tail to the opposite side and see if he will try to run the other way, (which he may a little), then handle the legs of that side to which the head is inclined.

FIG. 10



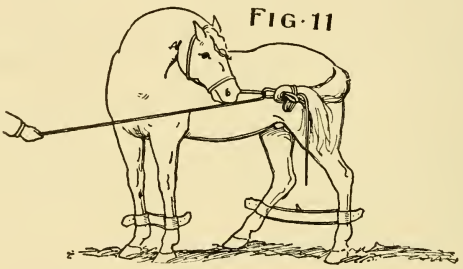
Cut No. 67.

WESTERN OR WILD HORSES.

If he is a western or wild horse that we will have difficulty in catching we should put shackles on all the legs as shown in Fig. 5. Cut No. 62, and Fig. 10, Cut No. 67, and instead of giving him his entire liberty of head, we have a ring or loop tied in his tail through which we run the strap of the halter and attach a long rope, as seen in Fig. 10, Cut No. 67.

SHACKLING THE HORSE ALL AROUND AND FEEDING FROM THE HAND.

If at any time when we wish to approach him and he tries to get away, we have only to pick up the rope, and by pulling on it, we are able instantly to bring his head and tail together as shown in Fig. 11, Cut No. 68.



Cut No. 68.

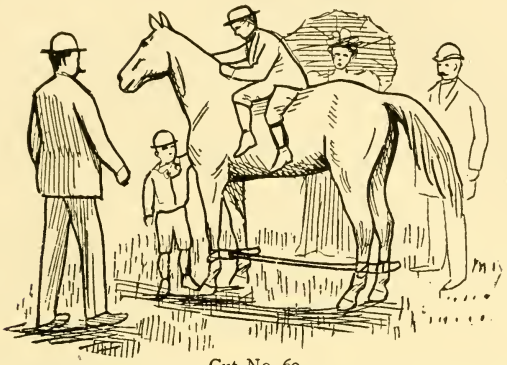
THE WILD HORSE CORRALLED, HELPLESS ANR HARMLESS.

If the shackled horse does not stop when we pick up the rope he will wind himself up and becomes perfectly helpless, so we can go to him without danger of being hurt. We should continue going to him and handling him, watering and feeding him from the hand, caressing him, showing him new objects, etc., etc., until he seems pleased with our visits. Then we may lengthen the shackles out until he has more or less use of his legs, and then we should begin his education of following us, backing, the word "whoa," harnessing him, etc., when he will soon become a valuable horse, if he is endowed with a fair share of intelligence.

ALL THE HORSE'S LEGS TIED TOGETHER WITHOUT PAIN OR DISCOMFORT.

Heretofore we have been depriving the horse of the use of his legs by degrees and controlling him more or less through the medium of the halter with head and tail. But now, with simply the addition of a strong coupling strap or rope between the front and hind legs just short enough to keep the legs all under the body, so as to neither hamper or give lib-

erty of action and we can remove all other attachments and familiarize ourselves, families, neighbors and friends with the young or aged animal, as seen in cut No. 69.



Cut No. 69.

EVERYBODY GETTING ACQUAINTED WITH THE HORSE AND HE WITH EVERYBODY.

Notwithstanding the subject of our sketch is anxiously looking towards the herd that he was but recently a member of, he is now seemingly contented with the new situation, unhampered in any way except that he is deprived of the use of his legs. While he is unable to go anywhere he has learned that he is not to be hurt in any way. The children, lady with umbrella and men now are to be treated with indifference by him, as he knows they mean no harm. In this condition all kinds of objects can be brought to him and he can be made acquainted with anything desired by his owner or handler, but this one thing must be enforced on the mind of every one coming in contact with him; that he is not to be hurt or suddenly frightened under any circumstances.

NATIVE NEW ZELANDER'S METHOD VERY CRUDE BUT ABOUT THE SAME.

The native New Zelander drives the subject to be handled into the mire and while in a helpless condition they make themselves familiar with the horse from every quarter. Men, women and children ride the wild horse from ears to tail. They bring all kinds of objects to the horse for his inspection, but they never give him pain and by the time they have helped him from the quagmire the horse realizes that they are his friends instead of enemies, and they make very reliable animals.

HAVE THE EDGES OF THE SHACKLE-STRAPS ROUNDED.

It must not be forgotten that the shackle-straps must be made very strong and have the edges nicely rounded or lined with lamb's wool to

prevent chafing. The coupling straps for the front and hind leg shackles should be kept about the same length.

NO LIBERTY FOR THE WILD HORSE UNTIL FULLY EDUCATED.

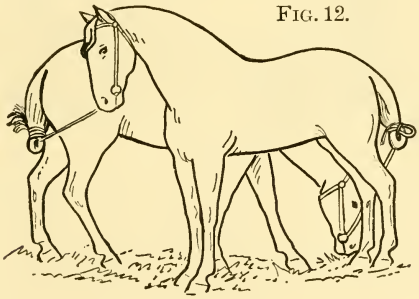
If the reader has followed us closely, with frequent reference to the cuts, he can at once see that these appliances are founded on right principles and lead to the ends to be attained in the control of the wild horse without injury to horse or man. We should never let the wild horse get away from us or have the chance to take the advantage of us in any particular, from the first time we come in contact with him until he has full confidence in us; neither should we ever hurt him when in immediate contact with him, if we expect him to have confidence in us.

CHAPTER XXXII.

NOVEL, BUT PRACTICAL METHOD OF HITCHING OR PICKETING HORSES, ETC., ETC.

On our large prairies we can not readily find a post or object to which we can tie or hitch our horses. We have all tried various methods, but the one shown in illustration (Fig. 12. Cut No. 70), is as convenient and practical as any, where we have two horses. Use halters or bridles.

FIG. 12.



Cut No. 70.

PAIR OF HORSES HITCHED HEADS AND TAILS.

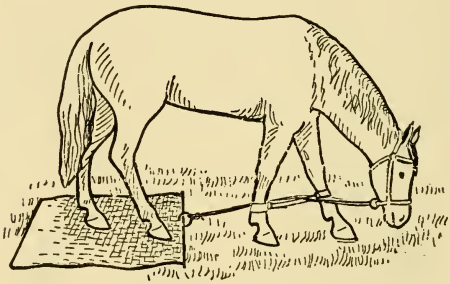
The illustration speaks for itself and consists only in tying each horse to the other's tail, just sufficiently long to enable them to get their heads to the ground when we want them to graze, and when we need them they can be found not far from the very spot where we left them, as each one must follow the other in a circle. The knots in the tails are tied just the same as the one just mentioned, except that the tie-strap or rope is wound around the tail several times before being tucked under to finish the knot; so that the spring of the hair in the tail will not render it loose and become untied. If several turns are made and drawn down tight, there is no danger of their becoming untied.

This is a safer manner of picketing horses than a stake and rope. This is an excellent method to educate little colts to the halter if they are tied short. They soon learn to follow the halter.

PICKETING OR LEAVING THE SINGLE HORSE.

We are often asked for a method of hitching the single horse on the prairie and be able to find him on our return, and here it is. The illustration speaks for itself. Tell me, please, how far the horse will get from where he is left, and yet he can eat grass and move around over quite a space (backwardly) in half a day, but cannot go forwards. This is a very convenient method of grazing the lawn or feeding to grass where there are no fences for holding the horse. See Cut No. 71.

THE SINGLE HORSE HITCHED TO HIMSELF ON THE PRAIRIE OR LAWN.



Cut No. 71.

GUNNY-SACK OR MATTING AND HALTER WILL KEEP THE SINGLE HORSE.

Take a piece of strong matting four feet long and one foot wide, with a hole cut in the center of the matting so as to put in a ring, or tie the halter through this opening, and we have a better method of learning a horse to stand without hitching than by a weight.

It is better to put shackles on the front legs, as shown in cut No. 70 (a strap around each leg above the ankle and a cross strap) to keep the matting immediately under the horse at all times; yet in many cases it is just as effectual without this, as with it. Good strong "gunny" sack will answer as well as anything for the matting. This is simple but effectual in practice. The horse is practically tied to himself and yet he is not seriously hampered. See Cut No. 71.

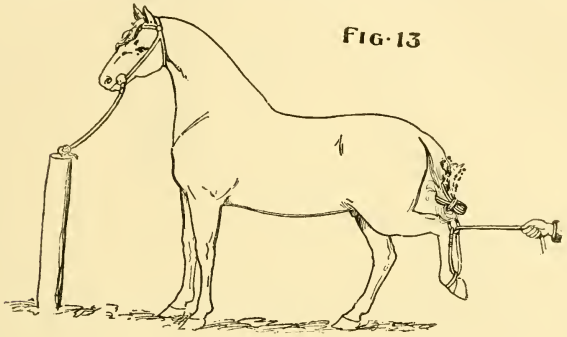
CONTROLLING THE HIND FEET OF THE HORSE IN SHOEING.

So many people have trouble in handling the hind legs of horses, in caring for the feet, shoeing, etc., that it is best to give an illustration and a little advice in the manner and method of doing it easily.

We should first take a strap or rope 8 or 10 feet long and lay it across the tail, as seen in Fig. 7 Cut No. 64.

INDUCING THE HORSE TO HOLD HIS HIND LEG UP.

Tie a similar knot as in picketing the pair of horses, (see cut No. 70), with one end of the rope; then slip on iron ring on the rope and tie as near to the knot of the tail as possible and secure it there on the rope. Next let the rope drop to the ground; then buckle a short strap around and pastern and over the rope; pass the rope back up through the ring at the tail and an assistant can hold the hind foot up with ease in spite of the horse's efforts, by pulling on the rope.



Cut No. 72.

If you are alone you can tie the horse to a post, and after pulling the foot up with the rope and he has ceased to struggle, you can tie the rope to the ring by a half hitch and the horse must hold his own foot up, and you can operate on it as you like.

POSITIONS OF THE HORSE AND ATTENDANT AT THE SHOEING SHOP.

The consequent troubles of many horses at the shoeing shop calls for a few suggestions to reduce to the minimum the sufferings of the horse, the danger to the smith and the conduct of the attendant.

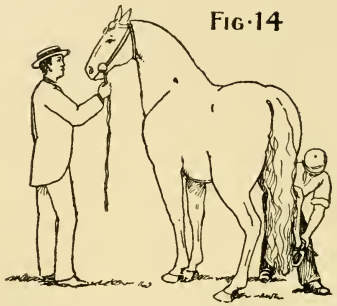
Too many people take their horses to the shoeing shop and go away and leave them in the hands of strangers and expect to return and find the work done in the best possible manner. This is in many cases almost an impossibility. It is about as important that the horse is taken care of by an attendant, as by the smith.

THE POSITION OF THE ATTENDANT ON THE SAME SIDE AS THE SMITH.

The position in which the horse is made to stand while being shod or having his feet cared for, is of more importance than the majority of people or smiths ever think of.

Usually, when horses' feet are being handled, and especially while young, they should always be controlled by an attendant holding the

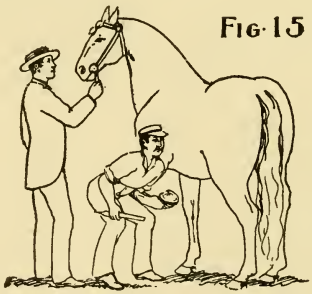
horse's head. Now, the attendant's position in relation to that of the horse is of the utmost importance.



Cut No. 73.

ATTENDANT NEARLY ALWAYS ON OPPOSITE SIDE FROM SMITH.

Almost invariably we see the attendant standing on the opposite side of the horse from the operator, and generally with the horse's head inclined towards him as seen in cut No. 73, and the result is, the weight of the horse (to a degree at least) is thrown on the man holding the foot as also seen in same cut.



Cut No. 74.

ATTENDANT AND SMITH ON SAME SIDE—PROPER PLACE.

The reader may, at first sight, think this frivolous to some degree, but if it is once tested with care, it will ever after be practised, as the results show for themselves.

ATTENDANT STANDING ON OPPOSITE SIDE FROM THE SMITH.

When the attendant takes his position on the opposite side from the smith, any struggle that the horse makes will naturally be towards the smith; besides, if the horse's head is inclined from the smith, it as naturally throws more weight on the smith than if the head was turned to the same side, and renders his position necessarily more or less dangerous; but if the attendant will always stand on the same side as the operator and incline the horse's head a little to the same side, the operator is relieved of the bearing down of the horse, as that inclines the weight on the opposite legs as seen in cut No. 74. Besides the easy position thus obtained, there is little or no danger in the horse's struggles, as they will be away from the operator instead of towards him.

COMPLETE SUCCESS DEPENDENT ON ATTENTION TO DETAILS.

The details of any department of animal husbandry goes to make up the sum total of success, and while we have in the last two chapters only dealt with a few of the many conditions to be solved, a careful study and practice of these will be preparatory to meeting other contingencies, the sole object of which is to render our horses of more service to us, by showing our fellow men some of the details of the methods, horse sense and true horse education, resulting from long experience.

WE MUST CONDUCT OURSELVES IN HARMONY WITH THE CIRCUMSTANCES.

We must ever take matters as we find them, and conduct ourselves according to circumstances and conditions. If we will commence the proper education of our horses when they are very young, we will find the same results as with our children who have the proper training in their youth—no trouble in after life, if naturally well disposed; but if we let our horses run wild until they have attained their mature growth, we must certainly use such means and methods (without violence) as will positively demonstrate to them that we are masters of the situation, yet merciful to the end.

OUR EDUCATION WAS NOT ACQUIRED IN A DAY, NOR IS THAT OF THE HORSE.

We did not obtain our education in a day, week, month or year; then why expect the horse to understand all that is needed of him in the unreasonably short period that is ordinarily required? Because we have herein indicated, as well as shown, the means for the control of our horses, we sincerely hope none of the readers of this book will look upon it as a means of revenge for some of the actions of their horses and severely punish them, simply because advantages can be so readily taken of them. The whole principle is to avoid danger and trouble with our horses, rather than the correction of acquired bad habits. Let us commence right, ever keep right, and we will always be right.

CHAPTER XXXIII.

MEANS, METHODS AND PRINCIPLES OF HANDLING MATURE HORSES.

The author confesses that he has more or less misgivings in the preparation of this chapter than any of the others, particularly in relation to the means and methods to be used in controlling our horses, when in the hands of the unobserving, impetuous and passionate "hossmen."

AS MUCH VIRTUE IN METHODS AS THE MEANS WITH OUR HORSES.

While he will endeavor to impress upon the mind of every reader the fact that there is fully as much virtue in the methods as the means used, he is quite certain too many will adopt the means of control (as the key of success), and ignore the methods (manner of using the appliances) and then, failing in the desired results, will condemn the author.

THESE MEANS AND METHODS ARE PROVEN BY EXPERIENCE AND PRACTICE.

The means and methods herein given, have often been used by the author and found the most valuable of any he has tried. They are not a mere theory, but principles established upon experience. The author has, in the preceding chapters, tried to impress upon the minds of his readers the importance of complying with the simple laws governing our animals, and he cannot do justice to our noble servant—the horse—without referring briefly to them again, and, possibly, in a manner that will make it more impressive, embracing the priniples and laws.

NATURAL LAWS GOVERNING THE ACTIONS OF OUR HORSES.

The pivotal point which determines the action of the horse is the center of his body, and when this is thoroughly understood, very many of the mysteries concerning why horses act as they do is easily understood. Whatever we do with the horse, should always be in harmony with these laws.

1st. Whatever transpires at the front of the horse impels him backward.

2nd. Whatever takes place at the rear of the horse, inclines forward action.

3rd. All side motions affect in like manner—in opposite direction.

4th. In all of our operations with the horse, it should be our highest aim to avoid giving him pain when in close contact with him.

5th. Whenever he becomes entangled by accident, or we do it purposely, we should stay away from him until he realizes his utter helplessness to free himself, then go to his assistance and kindly relieve him, when he will appreciate us, and readily become our willing servant. But if, by entanglement, we abuse him for it, then, whenever he finds himself encumbered in any way, he naturally goes to work to free himself and gets away from his handler—making a dangerous horse, instead of what he should be—kind and gentle.

6th. We should endeavor to control our horses by means and methods that will demonstrate to them that we are the stronger (through the means used), but associated with kindness whenever in close contact with them.

7th. In connection with the means to demonstrate our superior power over the horse, we should never forget that the medium of the stomach is the most direct road to his affections—consequently, notwithstanding, we may lay him down, deprive him of the use of his legs, etc., we should feed him sugar, sweet apples, cookies, or whatever he relishes from our hand, and it is astonishing, to the masses, how soon the wild or even vicious horse is as docile as a lamb.

8th. The reader will observe that the means set forth, in Horse Sense, is not intended to injure the horse in any way, but to enable his handler to demonstrate his superior muscular power (through these means) over that of the horse without any manifestation of anger on the part of the handler.

9th. We should at all times keep the horse cool and quiet, and endeavor to show him kindly what is expected of him, rather than to try to force him to do what he does not understand.

10th. We should always make the lessons short and impressive, and never try to progress faster than the horse fully understands what we want of him.

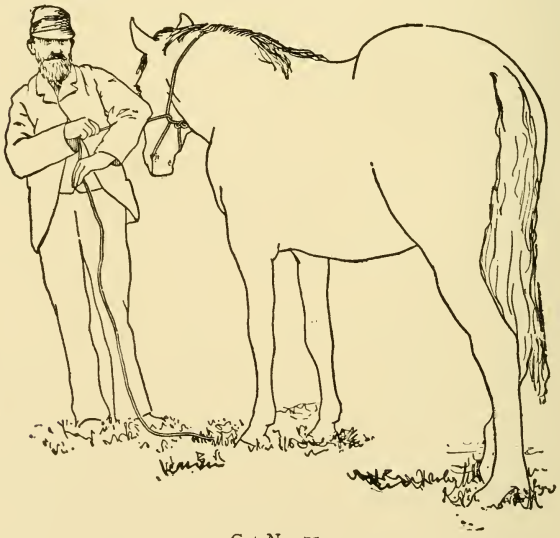
Note: To reassure the reader that we are correct in this matter, we have to only remind him that, if a horse gets his head fast anywhere, he goes backward to get loose. If he gets his front foot over any obstruction if not more than one foot high, and feels the pressure on the underside of his leg, he instinctively goes backward for relief. When he gets his hind foot fast, he goes forward to free himself. Fasten a tin can to his tail, and like the dog in the same condition, he goes forward as fast as he can. If the horse undertakes to go through a narrow passage, like a narrow door or between two posts, and he is pressed on both sides at the swell of his body back of the middle, he goes on through if it knocks his hips down. Whoever "broke" a colt to the halter but knew, before putting the halter on the colt's head, when he began to pull at the halter, that the colt would go backwards for relief, but what proportion of mankind ever stopped and thought what made the colt go that way invariably? The colt thinks he has his

head into some kind of a trap, and by the law of his nature he must go backwards for relief. Blindfold the colt and he will stand, generally.

Then let us observe these natural laws in all we do with our horses and we will have far less trouble than when we are working directly against these laws, as is too often the case.

HANDLING THE HORSE BY THE HEAD.

As most of our horses are controlled, through the medium of the mouth, it will be best to begin our illustrated part, of chapter xxxv, with easy and effective means and methods of controlling the horse through the mouth. We should be decidedly opposed to the use of harsh bits, which lacerate and mutilate the sensitive mouth of the horse, by and through which we communicate our very thoughts, to this noble animal, through the medium of the reins. For many reasons, we should all begin our education of the horse through the medium of the mouth, with a small (comparatively soft) rope, instead of iron bits. It is much more effective, will not bruise the soft, sensitive tissues and by its binding character, in which it is applied, makes our work more readily appreciated by the horse. For instance, when we pull on the rope, it binds in the mouth,



Cut No. 75.

SAFETY (OR STALLION) BRIDLE, FIRST FORM AND POSITION.

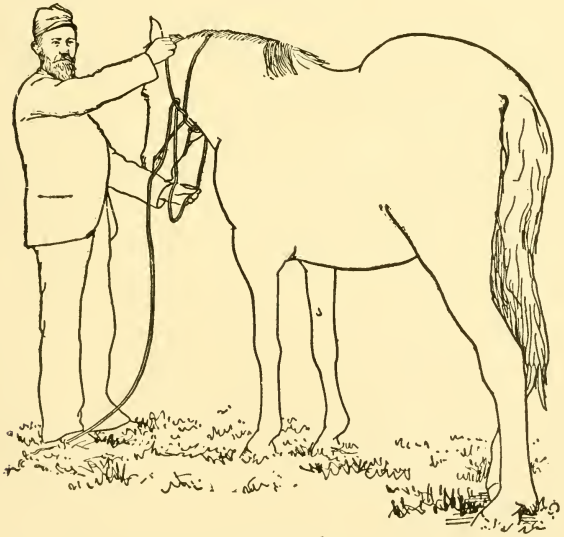
and does not let go until the horse comes to us or we go to him and loosen it, which is at once appreciated by the horse, and makes us looked upon as a friend in need and not an enemy.

STALLION OR SAFETY BRIDLE.

It is well to take about twenty feet of one-fourth inch manilla rope, with which we can make a better stallion bridle than is generally used of any other character.

MANNER OF ADJUSTING THE STALLION OR SAFETY BRIDLE.

We should first throw one end of the rope over the neck of the horse, with the left hand; reach under the neck with the right hand, and grasp the end of the rope, and tie a bow—bowline knot (see Cut No. 33), quite snug to the neck, (but not really tight or too close), now pass the left hand under this part around the neck, and draw through enough rope to go in the mouth, as shown in Cut No. 75.



Cut No. 76.

SAFETY (OR STALLION) BRIDLE, SECOND FORM AND POSITION.

We should next stand with our face toward the rear of the horse, taking the rope in the right hand about one foot from the neck of the horse, then reaching over the rope with the left hand, take hold of the rope

with the back of the hand up and forward, as seen in Cut No. 75. We must now pass this rope, as held in this way, over the horses head bringing the right hand to the base of the ear and left hand down under the neck as seen in Cut No. 76.

FINISHING THE ADJUSTMENT OF THE SAFETY BRIDLE.

Now we should change hands, taking hold of the rope with the right hand where held by the left and open the mouth of the horse by pressing the soft end of the finger, or thumb of the left hand, against the roof of the horse's mouth, when he will readily open the mouth and we pass the rope through the mouth, and, changing hands again, taking hold of the rope, just at the left side of the mouth, with the left hand; then pull on the long part of the rope, with the right hand, to adapt the rope to head, and we have the most effective bridle for the control of strong, vicious horses, or biting stallions, to be found. See Cut No. 35, fig. 3.

THE HORSE IS PREVENTED FROM BITING WITH THE SAFETY BRIDLE.

By pulling on this rope, only moderately, the cheeks of the horse are forced between the molar teeth, so that it is impossible for him to close his mouth, and bite, even though we put our hand into his mouth, and hold it there, if we keep the rope tight.

METHOD OF USING THE SAFETY BRIDLE.

When we have it snugly applied to the head of the horse, (not loosely), we should permit him to run away from us, the length of the rope, and with a sudden pull, pivot him on his hind feet, or stop him. He is willing to stop, no matter how well he feels, for he finds that his head and mouth are in a vice, as it were, with, apparently, no relief.

GETTING THE HORSE INTO TROUBLE WHEN AWAY AND RELIEF WHEN NEAR HIM.

Now, if he does not come to us, we should go to him, pat him caressingly on the cheek, and gently loosen the rope in his mouth. He is now free again, and, possibly, may be so reckless as to try it again, with the same results. We should do as before, three or four times if necessary, when he fully realizes that he had better not get to the full length of the rope away from us, or if he does the rope binds his mouth as before.

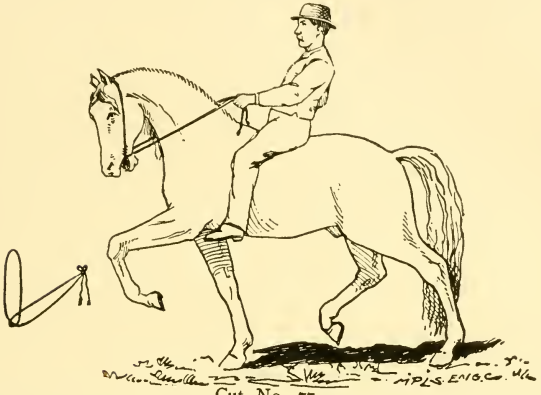
GIVE RELIEF WHENEVER THE MOUTH IS CRAMPED BY ROPE.

But if the horse will come to us, we never must disappoint him in relief and kind attentions when in close contact with him, which insures his confidence in us, that no matter what troubles he encounters, he is assured we will help him out of the difficulty.

Now a full description has been given of the method of applying the safety handling bridle, so that the reader can readily comprehend the principle of handling vicious horses without serious abuse or danger.

The horse is a very apt scholar, to learn either good or evil, and it is for us to direct him aright, as he never forgets what he has fully learned.

A CHEAP AND VERY EFFECTIVE RIDING BRIDLE.



Cut No. 77.

THE HORSE FRIGHTENED AT THE SIGHT OF THE UMBRELLA.

Cut No. 78.

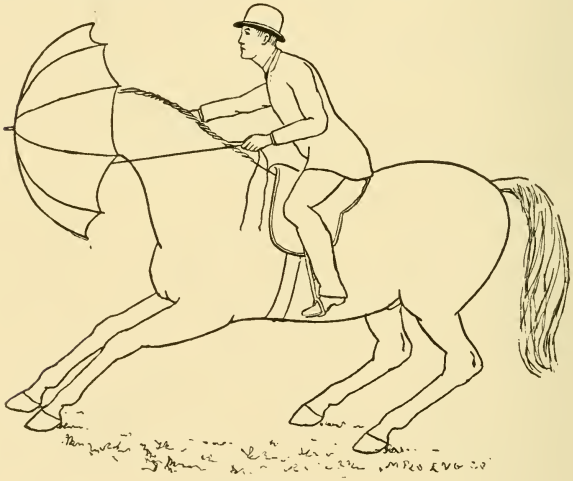
HANDLING THE UMBRELLA ON HORSEBACK.

Remember the law, as previously referred to, that whatever happens at, or toward, the rear of the horse, impels him forward, as well as that

which happens in front of him, forces him backward. It is well illustrated in cuts No. 78 and 79, in handling an umbrella on horseback. When the umbrella is back of the center of his body, and he takes fright, he naturally tries to run, but by bringing the umbrella over his head, as seen in cut No. 79, he stops instantly, and reverses his action so suddenly, that we must be on our guard, or we will go over his head.

A GOOD, CHEAP RIDING BRIDLE.

It consists of a piece of quarter inch manilla, or cotton rope, from six to eight feet long. By placing the middle part on top of the horses head, drawing down on either side of the face and passing through the mouth from each side, up on top of the neck, and, tying a knot at the withers to keep from dropping out of the mouth, we have a good riding bridle, as illustrated in Cut No. 77; down in front of the horse as well as applied to his head.



Cut No. 79.
BLINDING THE HORSE WITH AN UMBRELLA.

Now, how much better it is to understand this law, and hold on to the umbrella, until the horse finds he cannot get away from it, than to throw it away at first fright, and ever after incline him to run away from every object he is afraid of.

We must not get in a hurry in the education of our horses, if we would have them fully understand our meaning in all we do with them. "Hurry often makes waste," and mistakes with the horse are very difficult to correct.

CHAPTER XXXIV.

POWER OF MAN OVER THE HORSE.

Whenever we find the horse does not feel disposed to give us his undivided atttention, with the application of the safety bridle, and its associate treatment, then we should proceed to demonstrate to him our superior strength, through the means we use, together with very kind treatment.

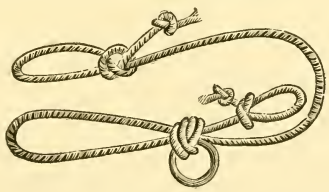
LAYING THE HORSE DOWN—AND MEANS OF DOING IT.

There is probably nothing we ever do to the horse that is quite so assuring to him of our superior power, like that of laying him down and putting him in a perfectly helpless condition and at the same time, treating him with the greatest kindness.

MAKING A CIRCINGLE AND CRUPPER WITH ONE PIECE OF ROPE.

We first take about fifteen feet of three-eighth inch rope, double it at about one-third its length, and slip a two-inch iron ring over this doubled portion, and tie a knot in the double rope, so as to hold the ring in such position, that the doubled end will make a crupper and back piece the required length, to have the ring rest at the point of the back, where the saddle of the harness should be. The remaining portion of the rope forms a circingle as seen in cuts No. 80 and 81.

A casting harness may be made of leather consisting of strong circingle, back strap and crupper to suit the taste.

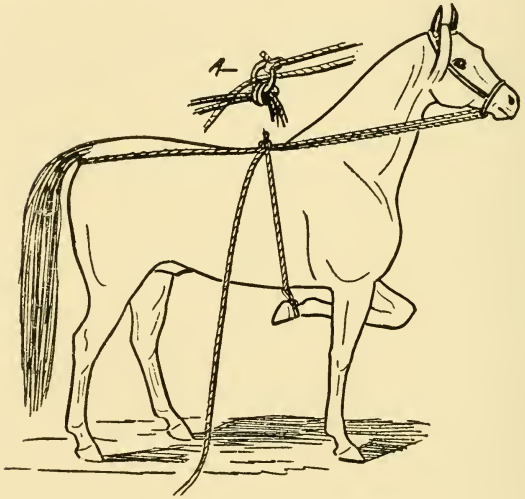


Cut No. 80.

CRUPPER AND CIRCINGLE MADE OF ONE PIECE OF ROPE.

When the circingle and crupper is adjusted, we should take a fourth-inch rope, twenty or thirty feet long, pass one end through the ring on the back, pass it along the right side of the neck of the horse, through

the ring of the halter, and back to the ring referred to on the back, and tie securely. Next we should take the hold-back or side strap to a single harness, or a good ham-strap will answer, pass it around the pastern of the left front leg, passing through the keeper, so that the buckle will be on the outside of the leg when the strap is pulled backward. Then we must lift up the left front foot of the horse, run the strap under the circingle, with the hair, and buckle up quickly and short, as seen in cut No. 81. As soon as the leg is securely fastened, we should let the horse have his liberty to about the length of the rope, when he is apt to be halted, as seen in cut No. 82.



Cut No. 81.
THE HORSE ALREADY TO BE LAID DOWN.

OBSERVE THE METHODS AS WELL AS THE MEANS; THEY GO TOGETHER.

We should not try to throw the horse down at once but allow him to hobble around on three legs, until he gets tired, being sure to keep at a distance from him all the time, letting him realize that he is in trouble—that he is a cripple. By keeping his head inclined to one side, with slight tension on the small rope, he will soon get tired, and drop on his knees, when his head should be pulled to his side, as seen in cut No. 83, continue to stay away from the horse and, holding him in this uncomfortable position until he falls over on his side, when we must pull hard

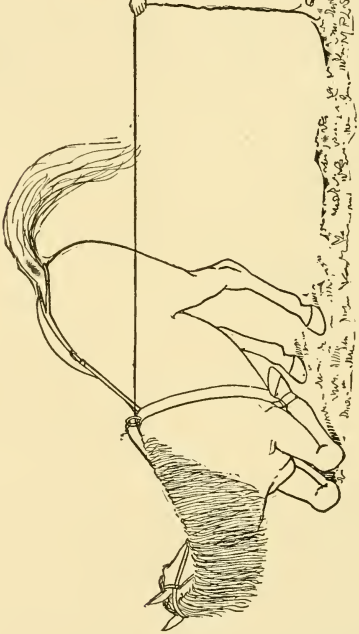
enough on the small rope to bring his nose to the ring on his back as seen in cut No. 84.

If the reader does not believe this is an uncomfortable position, let him try to look back over his shoulder one minute by the watch and see how his neck will ache. After the horse has lain in this position one-

Cut No. 82.
THE HORSE HALTERED AT THE END OF THE ROPE.

half minute to a minute, he will make a desperate struggle to rise but if the small rope is kept tight it is impossible for him to get up. Just as soon as the struggle is over we should approach him, (keeping the hand rope tight), caress him on the head and neck and begin relaxing on the hand rope until he is stretched out on the ground in an easy position as seen in cut No. 85.

If the horse fails to appreciate the comfortable position we have given him, and attempts to get up, we must spring away from him and again get him into that same uncomfortable position by pulling on the hand rope as before. See cut No. 83. Now we will hold him in this very uncomfortable position again a short time, to let him know that we are away from him and he is unable to extricate himself. If he struggles



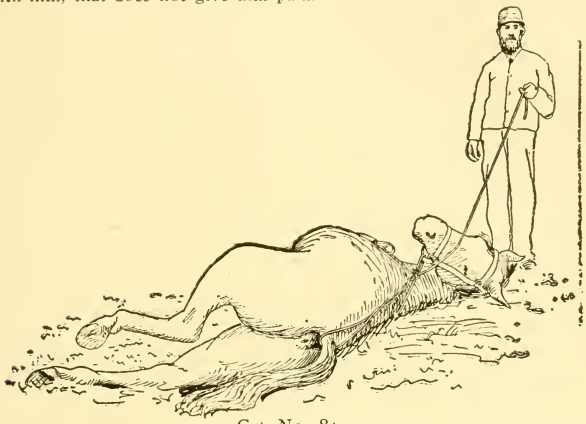
Cut. No. 83.

THE HORSE ON HIS KNEES AND IN TROUBLE.

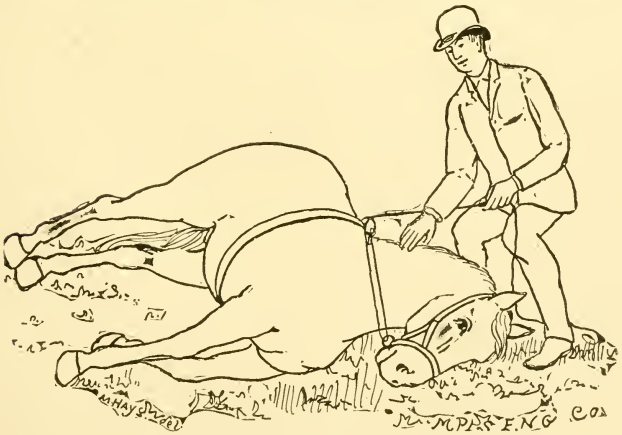
again, we must do as before; but if he submits without a struggle, we should never keep him long in this position, but go to him and relieve him as before. By the second or third round of trial to get up, he fully comprehends that when we are in close contact with him, he is relieved of his troubles; also, that when he attempts to rise we are suddenly gone, and he is at once in that same uncomfortable position again.

PUNISHMENT DEFEATS THE VERY OBJECT AIMED AT.

As soon as the horse discovers that we do not mean to hurt him, and that whenever he is in serious trouble we come to his relief, he, very naturally, has confidence in us, and cares but little what we do to him, or with him, that does not give him pain.



Cut No. 84.
THE HORSE ON HIS SIDE AND IN GREATER TROUBLE.

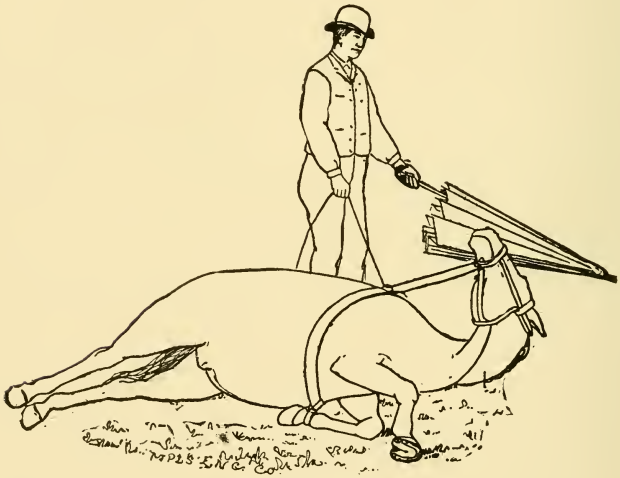


Cut No. 85.
THE HORSE IN A COMFORTABLE POSITION.

WHEN DOWN A GOOD TIME TO GET ACQUAINTED WITH OBJECTS OF FRIGHT.

While we have the horse down in this way, it is a good time to make him familiar with us, from every position, holding on to the hand rope all the time, and being ready to pull his nose to his side at any moment, he should strive to avoid us.

As soon as the horse is familiar with us from every position, also with our weight, on any part of his body, lying, sitting, or standing, we then should begin with other objects, such as the noise of bells, pans, drums, etc. The sight and touch of blankets, robes, or umbrellas, open or closed in cut No. 86.



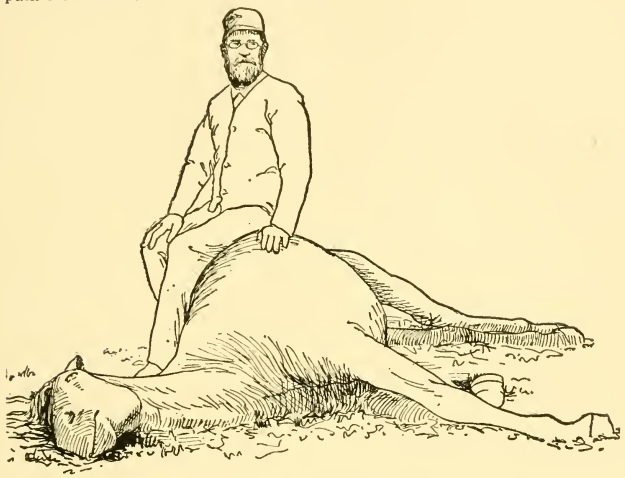
Cut No. 86.
THE HORSE EXAMINING UNUSUAL OBJECTS.

By bringing objects to the horse when down, we can make him acquainted with them, without his getting away from us, or injury in any way.

THE HORSE EXAMINES OBJECTS AS WE DO, BY SIGHT, TOUCH AND SMELL.

The horse examines all things very much as we do, first by sight, and then by touch. But if the sight is sufficient to frighten him away, he never fully satisfies himself by the touch: he stays away from the object through fear by sight alone. Consequently, the importance of having

him in a position by which we can bring the objects in contact with his body, and show him by touch, sight and smell, that there is no cause for pain from them.



Cut No. 87.
CONTENTMENT OF HORSE AND MAN.

If we have done our work consistently, and in such order that we have carried the horse along with us, in understanding, step by step, we may now take every incumbrance from him, and he will appear as seen in cut No. 87, confident and contented.

The above cut, No. 86, was made from the photograph of a handsome four-year-old mare, and the writer, after having had a lesson of about twenty minutes (without sweating a hair), on the fair grounds at Madison, Minn. She was a powerful mare, active and very nervous to begin with, but very soon became remarkably docile, as almost all horses will, when properly handled.

REMEMBER THE HORSE IS ENDOWED WITH INTELLECT AND PASSION.

Don't let us ever forget that the horse is endowed with intelligence, kindness, fear, passion and revenge; and we must conduct ourselves accordingly, observing closely the laws of correlation between men and animals.

AN APPEAL TO THE READERS IN RELATION TO METHODS AND MEANS.

Now, dear reader, please remember what has been repeatedly said, that there is as much virtue in the methods as the means. To be sure

we can, by the means here represented, throw the horse down with considerable violence, and punish him severely while down and in close contact with him, without his being able to help himself; but by so doing we defeat the very object aimed at, viz., every time thereafter, remembering the punishment received, he will refuse to submit until entirely exhausted. But by the cool, quiet method and not being in too great a hurry, the horse realizes his trouble, gets weary, lies down, finds he is unable to rise of his own efforts, yet finds he has a friend in us, who comes to his assistance in time of need, and he certainly appreciates it with a kindly remembrance, or he would not rest so contented as shown in cut No. 87.

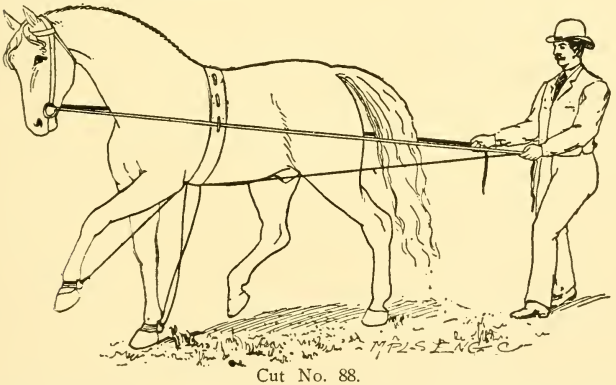
CHAPTER XXXV.

MEANS, METHODS AND PRINCIPLES OF HANDLING HORSES BY THE LEGS.

Having previously made ourselves familiar with the horse, by laying him down and proving our superior power, (through the means used), and at the same time relieving him when he got into any serious entanglements; if he still persists in asserting his wishes as soon as he is assisted to his feet again, then we should use means to control his powers of locomotion.

Of the many ways and means of controlling the horse through the medium of his legs, mention of a few of the more important will suffice.

We will commence our operations by taking the saddle and crupper of a single harness. We use both girths in order to retain the shaft-holders down in position.



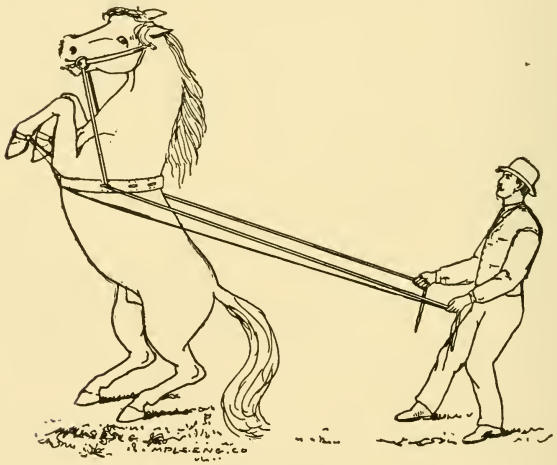
Cut No. 88.

CONTROLLING THE HORSE BY DOUBLE PERSUASIVE METHOD.

The lines, for driving, should pass through the shaft-holders, instead of the terrets on the saddle. By having the lines through the shaft-holders, the horse is prevented from turning around and facing us, as the lines pull across his thighs, instead of over his back, and we are enabled to keep his head from us.

When we have the lines so adjusted, we should then buckle a strap around each front pastern. Then take about twenty feet of quarter inch rope or rawhide, and with one end in the hand, put it under the girth of the harness, against the hair, pass it down, and under the strap at the pastern of the right leg, and back under the girth again, with the hair, and down to, and attach to the strap of the pastern of the left leg, when we can take the rope and lines in hand, and get behind the horse, and commence proceedings as in cut No. 88.

If the horse starts off quietly we must certainly give him no annoyance, but if he persists in trying to get away from us, or rears, we should proceed to draw his front feet to his body, as seen in cut No. 89, by pulling on the rope; or if he attempts to run from the start, we pull on the rope, for the same purpose as seen in cut No. 90.



Cut No. 89.

THE HORSE REARING, BUT LOSING THE USE OF HIS LEGS IN THE ACT.

REINS FOR THE LEGS, BETTER THAN TO THE BITS.

When the horse is determined to get away, with even good treatment, the use of the double foot attachment persuader is very effective, if in the hands of a considerate and affectionate horseman. If the horse starts by rearing or running, and we pull on the rope, the result is the same in both cases, and is very well shown in cut No. 90.

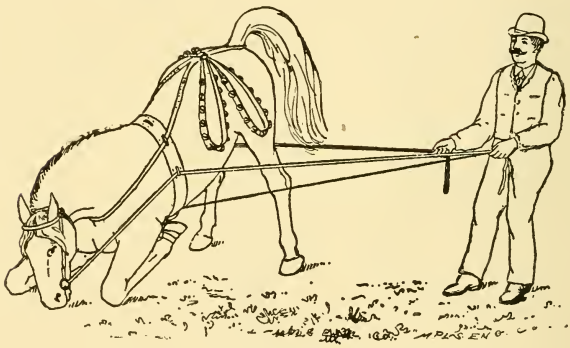
It is quite evident from the appearance of the horse in the illustration, cut No. 89, that if the attachment give way he is at liberty, but, on the other hand, if the attachments are strong enough he is bound to come to the ground on his nose and knees, as will be seen in cut No. 91.

Cut No. 90.
THE WOULD-BE RUNAWAY SECURED.

Now that we have the horse in this helpless condition, we must not keep him there long, or he will get discouraged and lie down, and possibly refuse to get up. But if we hold him in this position but a moment, or until he becomes comparatively quiet, then go to him calmly, caress him, put one arm under his neck, loosen the reins and rope, and lift on him a little, with an encouraging word to get up, he will get to his feet promptly, and be a little more careful afterwards.

A FAILURE UNLESS PRINCIPLES AND METHODS ARE CLOSELY OBSERVED.

One handler will use this appliance with the most satisfactory results by going slow and careful, not dropping the horse to his knees, but once or twice, and the horse realizing the advantage taken of him, and not becoming confused, quietly adapts himself to the wishes of his teacher, while another handler with the same horse would make some mistakes, get confused or angry himself, and soon get the horse excited and have a real fight between horse and man, a condition that should be avoided at all times and under all conditions, as no good can result. The natural query to the reader then would be, is this method valuable or dangerous in my hands? This can be answered only by saying that by these means we can prevent the horse from running away



Cut No. 91.

CONVINCING THE HORSE OF HIS UTTER HELPLESSNESS.

or doing much mischief in any way, which we consider valuable to both man and horse. But we must urge all handlers not to put the horse down on his knees any oftener than can possibly be avoided, for the best results. The horse can travel with this appliance about as well as without it. We should advise the use of knee-pads if the horse is to be driven on the hard rough roads.

THE APPLIANCE MORE VALUABLE IN SINGLE THAN IN DOUBLE HARNESS.

The double persuader is better and more practical in single than double harness, on account of this depriving the horse of the use of his front legs and stopping him entirely, which must necessarily be a hindrance to the other horse. The single persuader will be considered in connection with the work in double harness principally.

CONTROLLING THE HORSE BY THE SINGLE PERSUASIVE METHOD.

Now, dear readers, please don't complain of our heading, because we mean it in its most forcible sense. Persuasive influence, with both men and animals, is certainly the most effective, as we shall try to show here; and if our readers will apply the principles, means and methods here laid down, instead of the whip and other brutal force, we are confident of gaining our point with both the horse and his handler.

Means and methods, you will observe, are our principles of convincing the horse that if he is determined to have a struggle, it must be mostly with himself. We should take as little part in it as possible, consequently try to devise the means by which he can demonstrate to himself that he is fighting himself rather than his handler. In the preceding example of handling the horse by his feet, and taking both front feet from him by the double persuader, we thereby stop him in further progress of locomotion, which, if persevered in will have a tendency to anger or discourage the horse. While we may like this method of taking the front feet from the horse in his very first lesson in harness, to convince him that at the word whoa, or in an attempt to run away with us, to rear or kick, we can at once demonstrate to him (without pain) that he is powerless to do so to any satisfactory degree, it also has its objectionable features, as we have before indicated; beyond the first short lesson, in which we should always use it to begin with, so as to be sure we have all the advantage on our side; after which we use the single persuader until the horse fully understands what we wish him to do for us.

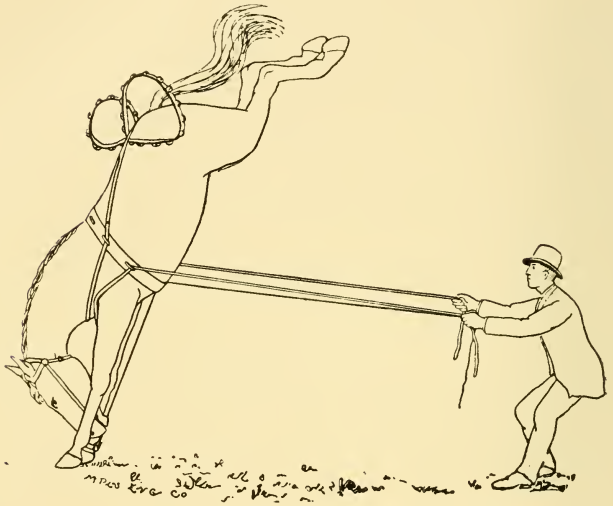
PERSUASIVE INFLUENCE IS ALWAYS BETTER THAN BRUTE FORCE.

We should not depend on the bit, and especially harsh bits, to control the young, ambitious, or even vicious horse, because, in his eagerness to get away, or do mischief, we are apt to injure his mouth to such a degree that it is ever after tender and sore, or so calloused that he is a "puller" (lugger) ever after. But if we apply our "persuasive" influence as hereinafter described, all users will be pleased with its effect, and not take the chances of making a runaway, kicking, dangerous horse, in his primary lessons in harness. By the use of the "persuader," we are enabled to make the horse a cripple for the time being, and yet not necessarily stop or hurt him, but impede his progress to such a degree that it is not really dangerous to his handler or encouraging to the horse.

If the horse proves to be a runaway, we let him run upon three legs instead of all four. If he is a kicker, he must stand on one front leg to do the most of his kicking. If he is restless and uneasy about standing, we let him stand on three legs part the time.

When we find we have a confirmed kicker it is best to attach bells, tin pans, a fourth of a sack of bran or other object to the crupper of the

harness and let it hang down to the hocks or near there, and drive about without being hitched to a vehicle at first, as seen in cut No. 92.



Cut No. 92.

THE SINGLE "PERSUADER" APPLIED TO A KICKER.

Note.—The rope from girth to pastern should show double and tied at the girth instead of at the foot, as in cut No. 92. See cut No. 93, correctly applied.

The cut represents the horse in the act of doing his utmost to rid himself from the bells attached to the crupper of his harness, before the persuader has actually been put into operation. The "persuader" is applied by having a strap around one front pastern only, then take the end of the small rope, and pass under the girth from the rear, down under the strap around the pastern and tie to the girth. See cut No. 92. With the confirmed kicker, we should give him the opportunity to kick once or twice, or even more, at the object attached to induce him to kick, before making it hard work for him by the use of the "persuader."

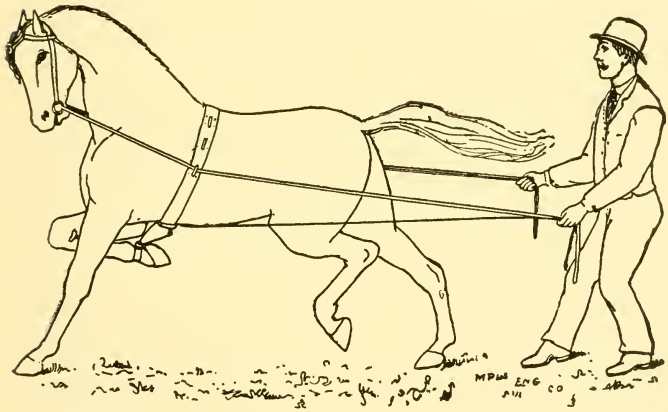
WHEN THE HORSE GETS WARM AND EXCITED, STOP TO COOL.

As soon as the horse gets warmed up to his work in earnest, or starts to run, we pull on the rope which takes one front foot from him, so that he is compelled to balance himself on one foot while he

does his kicking, which soon persuades him that he is making hard work of it for himself. Or, if he attempts to run and kick, he must do so on three legs, by which he is soon persuaded it is too hard work to be enjoyed.

SINGLE PERSUADER BEST USED WITH THE HORSE GOING IN A CIRCLE.

If he is a powerful horse and starts to run and kick, we should always incline his head towards the opposite side from the leg that is held up, which induces him to run in as small a circle as possible, and by a sudden turn of the head he is very apt to fall broadside, which again persuades him he is making hard work of the kicking business, which must be the object to be attained in the correction of the kicker.



Cut No 93.

THE SINGLE "PERSUADER" APPLIED TO THE RESTLESS HORSE.

The restless, uneasy and impatient horse can soon be persuaded to stand until we are ready to give him the word to move, by simply letting him stand on three legs a part of the time when he is most anxious to go. But as soon as he becomes at all quiet—even for a few seconds—he should have the benefit of all four of his feet, to assure him that we will give him this benefit if he will only be quiet. This is fairly well shown in cut No. 93.

THE SINGLE PERSUADER IS FAR BETTER THAN KICKING STRAPS OR HIGH CHECKING.

Mere preventives, such as kicking straps, high checking, etc., rarely ever cure the kicking habit. But if we would give the horse the

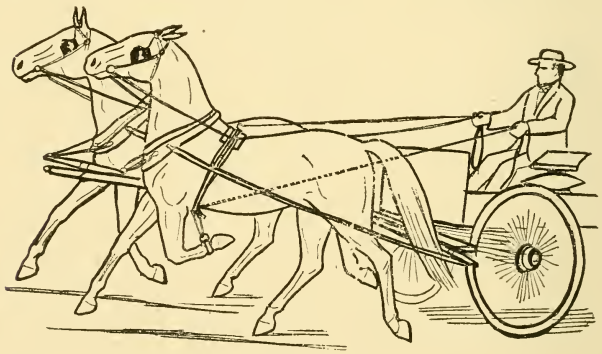
opportunity to kick at something that cannot hurt him, and have him in such position that does not necessarily prevent him from kicking, but makes hard work of it, he is soon persuaded that he prefers to have anything hanging to him or hitting his heels, rather than work so hard to get rid of it and fail, too.

EVERYTHING MUST BE SECURELY ATTACHED FOR SUCCESS.

Everything attached to the harness to induce the horse to show what his natural inclination is should be securely fastened, as every time he succeeds in getting rid of it is an evidence to the horse that he can accomplish his object if he only tries long enough, and he is perfectly willing to try as long as he sees any possibility of succeeding.

DEMONSTRATING TO THE HORSE THAT HE CAN INSTANTLY BE MADE A CRIPPLE.

Now isn't it plain that if this is all done quietly, and without apparent effort, and not to simply annoy and tease the horse, that he will soon be persuaded that he is only working against himself, and conclude that he is doing a great amount of hard work for nothing? Isn't it also apparent, to even the casual observer, that if we can permit the horse to still keep going (though somewhat crippled in one leg) that he will be persuaded to go quietly, much sooner than he will if we take both front feet from him, which stops him from moving entirely?



Cut No. 94.

DRIVING THE KICKER DOUBLE WITH SINGLE PERSUADER ATTACHED.

Note.—The dotted line is to represent the rope drawn under the body of the horse to which it is attached and between the horses to the driver, and not on the outside, as the same would appear.

HITCHING THE KICKER IN DOUBLE HARNESS TO WAGON.

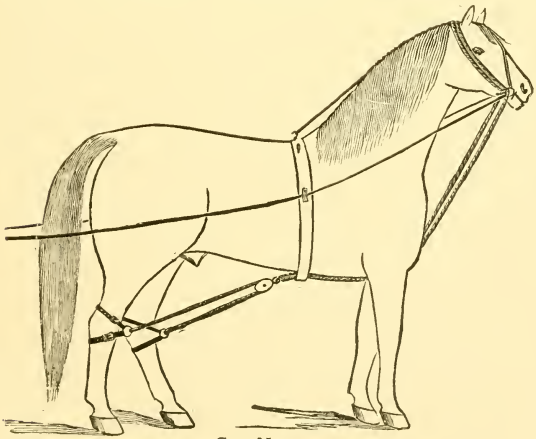
We neglected to state before that when we are ready to hitch the kicker to a vehicle, we prefer to first drive in double harness to wagon and be sure to have the "persuader" on the outside front foot, so that if he should fall at any time he will fall outwardly, instead of on the pole, and possibly break it. As a precautionary measure we should always apply the "persuader" to every colt when first harnessed to a wagon or other vehicle, so as to persuade him, at once, that if he attempts to run or kick, that he must necessarily find it a hard undertaking. See cut No. 94.

THE WILLFULLY VICIOUS KICKER.

If the persuader and other means and methods fail to accomplish the desired results with the confirmed kicker, then we must try a means of self punishment that has never failed with this class of unruly horses.

SELF PUNISHMENT AT THE VERY INSTANT OF THE VIOLATION.

Self punishment is valuable for the reason that the punishment is dealt out the very instant of the violation and at the other end, or front end of the horse, which naturally attracts his attention to the point of punishment with such force that he, as naturally, forgets what has transpired at the rear. The means to accomplish the work consists of one piece of one-fourth or five-sixteenths inch rope, about twelve or



Cut No. 95.
KICKING ATTACHMENT FOR SINGLE OR DOUBLE HARNESS.

fourteen feet long, and another piece of seven-sixteenths inch rope, about six feet long, a pulley, four straps one inch and one-fourth wide and about one foot long each, and two iron rings, one and one-half inches in diameter.

First, thread the long rope through the eye of the pulley, and the short rope around the pulley itself. Now, check the horse's head the desired height with a good, strong overhead check. Next draw the short rope backwardly from the front, and under the girth, so the pulley will rest just back of the girth, as shown in cut No. 95.

Next, take the ends of the small rope, carry each to the rings of the bridle-bit, at either side, passing through the rings, from the outside (which will bring the rope over the head, under the headstall of the bridle) and carry over the head, from each side, and pass through the rings again from the inside, and let them hang there until the balance of the attachment has been adjusted. First, by buckling the straps above and below the hocks and through the rings, as seen in cut No. 95. Then tie the larger and shorter rope into these rings at the hocks, by half hitches, so as to leave the pulley just back of the girth, and finish the adjustment by drawing the ropes moderately taut at the bit, and tie on either side by half hitches also, (which makes the rope easily untied, no matter how tight drawn) and we are ready for the first trial.

GIVE THE FIRST LESSON WITH ONLY THE HARNESS ON THE HORSE.

We should always commence the first lesson with only the harness and reins, because the first kick may be a terrible one; but, in all probability, it will be the last severe one, as it will never be forgotten by the horse. We will naturally be asked, why? It is for the reason that when the hind legs are forced backward, the rope over the head has drawn the bit so far up into the angles of the mouth, and holds it there, that the horse forgets what happened at the rear, from the fact that he is into so much trouble at his front end (the mouth).

EVERY TIME THE HORSE KICKS HE SHOULD BE RELIEVED AT THE MOUTH.

It should be our duty to go to the horse's head and draw the bit down into the mouth away from the angles, and caress him, immediately after a hard kick, satisfying him that notwithstanding he got himself into trouble, we are charitable enough to help him out of it. If, by the first kick, any part of the kicking attachment has been broken, it should be repaired before relieving the horse at the head. This attachment is applicable to either single or double harness, the wagon, plow or other vehicle; but we should never hitch a kicking horse to any kind of vehicle where he can injure himself or break the carriage, until we are satisfied that he knows better than to kick hard, at least.

CAN TRAVEL ABOUT AS WELL WITH AS WITHOUT THIS ATTACHMENT.

With this kicking attachment the horse can walk, trot or pace, but cannot run to much purpose, for when the hind legs are brought backward together it must produce an effect on the mouth; whereas the movements of walking, trotting or pacing move one leg at a time; the leg rope plays back and forth, through the pulley, without any appreciable effect on the mouth.

Except in a very straight hock, the straps will stay in their places, especially if both upper and lower straps are of the proper length to allow the ring to draw from the center of the hock. But if there is an inclination to drop down below the hock, a string or strap from the hock-band to the back strap will keep them in place.

ALWAYS CARRY THE SMALL ROPES OVER THE HORSE'S HEAD BEFORE TYING.

The reader may wonder why we want to pass the long, small rope up over the horse's head and tie into the bit-ring on the opposite side; but will naturally say to himself, it is just as well to tie to the bit-ring on either side, instead of going to the trouble of passing it over the head and tying on the other side.

NEVER TIE THE ROPE DIRECTLY FROM UNDER THE BODY TO THE BIT.

If the rope is tied directly to the bit-ring, and the horse should kick hard, he will certainly bruise his mouth badly, and may break the bit and get his freedom; whereas, if the rope is passed over the head, as directed, the hard kick draws the bit up into the angles of the mouth so tightly that the pressure continues until relief is brought to the horse by his handler pulling the bit down into the mouth, which, if done in the spirit of kindness, will soon satisfy the horse that it don't pay to kick any more. Its use should be persevered in for a considerable time.

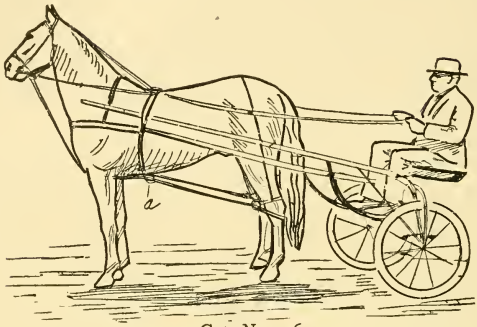
A MODIFICATION OF THE LAST NAMED APPLICATION FOR THE KICKER.

Before trusting the kicker without any appliance to prevent him from kicking, it is a good plan to use a halter under the bridle with tie-strap of minimum strnegth only (one that can be easily broken) and attach this strap to the eye of the pulley, back of the girth, a little shorter than the ropes of the headstall of the bridle, so that any tension from the head to the hind legs will come on the nose-band of the halter instead of the mouth. And if the horse should make an effort to kick, the halter-strap will break and the effect on the mouth will be just the same through the medium of the ropes to the mouth as before.

THE HALTER ATTACHMENT FOR SUBSEQUENT USE AND ITS BENEFITS.

After the horse has become acquainted with the additional halter attachment to that of the ropes to the mouth, the rope part to the

mouth may be discontinued and only the halter method used, as seen in cut No. 96.



Cut No. 96.
HALTER ATTACHMENT FOR KICKER, TROTTER, PACER OR RUNAWAY.

To use this to the best advantage, a good strong over-head check rein must be of the first consideration, next a strong halter, a pulley as used in the former attachment for the confirmed kicker as seen at (a) in the cut, and supporting strap from the hock-band to the back strap of the harness, to keep the hock-strap in position. Now if everything is strong and the hock-bands well protected with felt or sheep-skin wool to protect the skin from chafing, we are in good shape for correcting many of the bad habits of the horse, such as bolting, breaking in trotting and pacing, kicking or running. As long as the legs of the horse are working alternately, everything will be running smoothly; but the instant they act simultaneously the horse "gets it in the neck." That is, every time the horse breaks his gait or kicks, the effect is instantly felt in the neck from the sudden pull on the halter, which the horse very soon learns to respect and consequently behave himself as a good horse should, without punishment from his driver. It is a part of his harness, and always works at the opposite end of the animal with the most emphasis, and without a movement on the part of the driver. It is not as unsightly and is less dangerous to the horse than hobbles. To be appreciated it must be properly used.

CLOSING INJUNCTION.

Before closing our remarks in regard to all the preceding appliances for the sure and safe education of our horses, we would again impress on the reader's mind that a knowledge of the methods are of more importance than to know how to make and adjust the means. They go hand in hand and they must be used humanely, or the objects aimed at will be utter failures. We naturally consider these the very best appliances, properly used, to persuade the horse to become man's willing servant, that we have ever had anything to do with. They can be used without scarcely any inconvenience to the action of the horse, and, if required, can be put into immediate effect with the very best results.

CHAPTER XXXVI.

THE SWITCHER AND LINE CATCHER.

The rein catcher, with the tail, is often a dangerous character, notwithstanding he, or she, may otherwise be a very valuable animal.

NEVER PULL THE LINE SUDDENLY FROM UNDER THE TAIL OF THE HORSE.

It is very bad policy to try to suddenly pull the rein from under the horse's tail whenever caught by accident or purposely. But if it is possible to let the rein loose, or the tail can be lifted from off the rein quietly by the hand, the animal may soon recover from any nervousness in consequence.

NEVER FIGHT OR PUNISH THE LINE CATCHER AND SWITCHER.

It too often happens that the mischief is done by some unthinking or inexperienced driver, and the animal ever afterward rendered dangerous or at least troublesome, to say the least, by punishment for this act of catching the line.

Mares are generally worse than geldings, and, while they have free use of the tail, may constantly keep trying to catch the rein under the tail.

NO CHANCES SHOULD BE TAKEN WITH THE CONFIRMED SWITCHER.

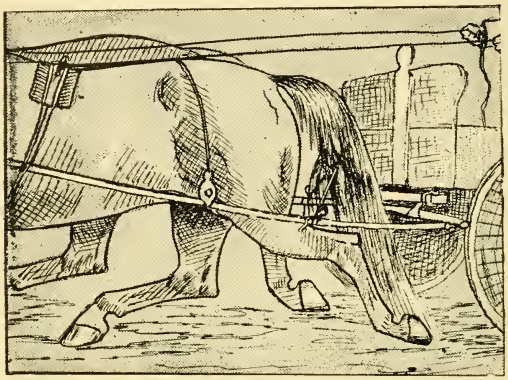
When the habit of catching the rein with the tail has become a constant practice, we should endeavor to prevent it by tying into a portion of the hair of the tail, a little above the terminal end of the tail bone, the middle portion of a string of sufficient length to extend the tugs, or traces on either side, and securely tie, as shown in cut No. 97.

TIE THE HORSE'S TAIL TO THE SHAFTS OR TRACES TO PREVENT SWITCHING.

The strings to the tugs or shafts should be drawn taut to begin with, and, as the animal becomes used to the rein, it may, from time to time, be tied more loosely.

It will thus be seen that it is impossible for the animal to securely catch and hold the rein with the tail where this device is used; and, by gently dropping the rein from side to side, without teasing the animal, we will soon establish confidence between us and the animal, and the habit is eventually forgotten. The author once used the de-

vice a whole summer on a very nervous mare before she entirely gave it up. Prevention and confidence must be established before the habit is broken up.



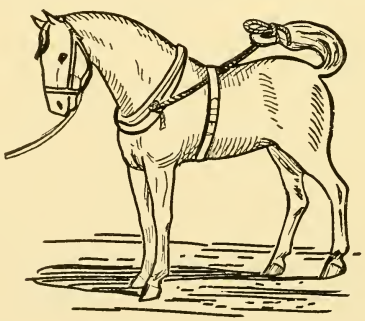
Cut No. 97.

PREVENTION AND PROBABLE CURE OF THE SWITCHER.

The tie in the tail should be made with only a small portion of the hair on the under side of the tail, about the size of a pencil, to that of the size of the finger.

TYING THE SWITCHER'S TAIL UP OVER THE BACK.

When the nervous switcher will not quit the habit of switching, we can often effect a cure by tying the tail up over the back, as



Cut No. 98.

THE SWITCHER WITH THE TAIL TIED UP OVER THE BACK.

represented in cut No. 98, which is done by tying the knot in the tail as heretofore mentioned in handling the horse by his tail or rather, in picketing the pair of horses.

Take a small piece of rope about eight feet long and double it, tying the double end into the tail so it can be easily untied. Tie the ends of the rope to each of the hame tugs or at the collar about even, so as to hold the tail just over the back, and draw down quite tight, so as to make considerable strain on the cords of the tail, and to secure them in place, it is a good plan to put a circingle over the ropes and fasten around the body.

MUSCLES TOO SORE FOR MUCH MOVEMENT OF THE TAIL.

From half an hour to two hours is generally sufficient to remind the horse that his tail is too much strained to do much of a job of switching, and in this way he will often forget or quit the habit.

CARE MUST BE TAKEN WITH THE NERVOUS MARE ABOUT THE LINES AND TAIL.

Too much care cannot be exercised in handling nervous mares about the line getting under the tail, and whenever it happens to be caught, either stop and remove it gently, or slacken the line so it will drop from under the tail. We cannot afford to jerk it out and take the chances of spoiling an otherwise valuable animal. "An ounce of prevention is worth a pound of cure." "A stitch in time saves nine." Too often we "lock the stable door after the horse is stolen. "For the want of a nail the shoe is lost"—a yank at the line and a stroke of the whip in haste, often gives room for repentance at leisure.

CHAPTER XXXVII.

THE BALKY HORSE.

From the heading, every reader will naturally say to himself: "Well, now you have introduced a subject in which we are all interested, and from the varied experiences with men and horses, we all want to know more about."

WHAT IS A BALKY HORSE?

A balky horse is one that has been badly handled or overloaded. His shoulders are sore or he is discouraged, disgusted, or prevented from going when he wanted to, and naturally says to himself, "you have stopped me, now I will go when I get ready." Here we are, and the question is, "what are we going to do about it?" Well, most people will begin to whip, yell, yank and pound the poor horse, and so confuse him that he loses what horse sense he had and stands there like a post, puts his head over the other horse, or, throwing himself to the ground, breaks some part of the harness or wagon, and thus gains his point in a large majority of cases.

MOST BALKY HORSES ARE MADE FROM ONE OR MORE OF THREE CAUSES.

Horses are generally made balky in one of three ways, and sometimes all three, viz.: Overloading, going with a heavy load until the horse is out of breath, exhausted, discouraged and disgusted with the treatment of his driver; by badly fitting collars, sore shoulders, improper draught of the collar, pulling too high or too low on the shoulder, etc.

THE HIGH STRUNG, NERVOUS HORSE MUST BE TREATED VERY KINDLY.

Horses are made balky by punishment in the mouth with the bit when the horse is disposed to go, preventing him from starting when he would go off quietly, by "yanking" the horse back from time to time, when he would go ahead, until, when the driver is ready for the start, the horse has concluded that he dare not try it again on account of the punishment by the bit, when he absolutely refuses to go when asked.

PUNISHMENT AND CONFUSION OFTEN MAKES BALKY HORSES.

When the balky horse has stopped is the time the fatal mistake is generally made, by the use of the whip at the rear end of the horse,

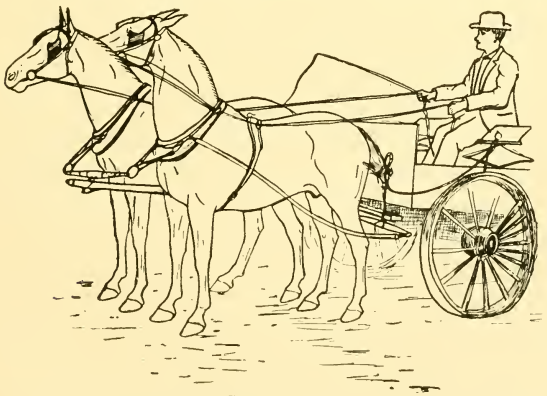
and while he naturally would go ahead by the tap of the whip on the rump, he now acts under the impression that he is not to be permitted to go ahead from the treatment he had in the mouth, and now that the punishment is coming at the rear, he says by his actions, "what am I to do now?" and in his confused condition he generally rears up and throws himself, breaking the harness or wagon.

BAD MANAGEMENT IS A FRUITFUL CAUSE OF BALKING.

Who is to blame with the balker? Ninety-nine times out of one hundred it is the result of bad management, in the first place by the driver, consequently the old adage that "balky horses are made by balky drivers."

REMEDY FOR BALKY HORSES.

Before giving the remedy, it will be well to repeat the law governing the horse, to-wit: Whatever happens at the front of the horse, impels him backward; and that at the rear sends him forward. Now we must take advantage of this law in applying the remedy to the balky horse. Instead of the usual confusion, excitement and punishment, we should quietly get down from the wagon and caress the balky horse as though nothing was wrong. We should then take a rope or strap strong enough to draw the load, and from eight to ten feet long, with the short end toward us. Then we should lay the rope or strap across the tail of the horse, just below the end of the tail bone, about three feet from the end of the rope or strap; now turn all the hair of the tail back toward the body of the horse, holding the same with the left hand. Reach under the tail and grasp the long part of the rope or strap with the right hand, bring it around the tail and tuck it under that part of the tail double, as

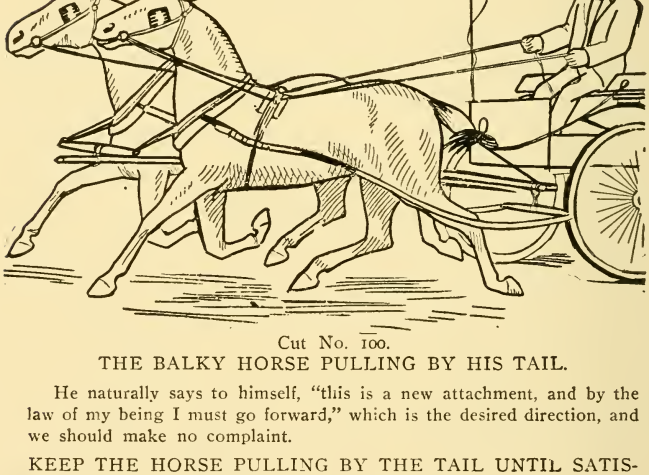


Cut No. 99.
THE BALKY HORSE HITCHED FOR THE START.

shown in cut No. 65, where we were hitching the horse's head and tail together. It is the same character of knot.

As soon as the knot in the tail is drawn firmly, we should tie the short end of the rope or strap to the end of the evener (double tree), with the tugs (traces) slack; then we must quietly get into the wagon, taking the long end of the rope or strap with us, as is well shown in cut 99, ready for the start.

When we are all ready to start (not before) we should touch the other horse with the whip or rein for a sudden start, which pulls on the other fellow's tail, and he wonders what has so suddenly happened to him at the rear end, which induces him to at once move forward without further ceremony, which is very nicely represented in cut No. 100.



Cut No. 100.

THE BALKY HORSE PULLING BY HIS TAIL.

He naturally says to himself, "this is a new attachment, and by the law of my being I must go forward," which is the desired direction, and we should make no complaint.

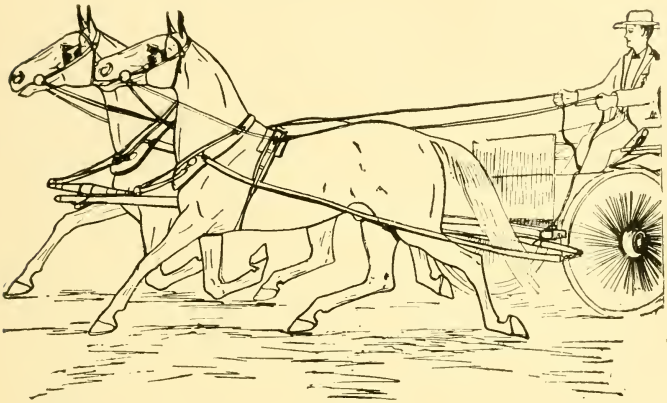
KEEP THE HORSE PULLING BY THE TAIL UNTIL SATISFIED TO GO WITHOUT.

We must keep the horse pulling by his tail until he becomes fairly reconciled to that way of drawing and going steadily, when we should quietly pull on the rope or strap we have in the wagon, which releases his tail and permits him to pull in the usual manner without stopping.

ALWAYS UNTIE THE TAIL WHEN GOING DOWN GRADE.

The untying of the tail should be done while the horse is in motion, while going down grade, and if he does not appreciate the change and should stop, we must again get down, as quietly as before, and

keep it up much longer, repeating as often as necessary, until the horse decides that he prefers to draw the loads by his shoulders, rather than his tail, as shown in cut No. 101.



Cut No. 101.

THE HORSE CHEERFULLY DECIDES TO DO THE WORK FROM THE SHOULDERS.

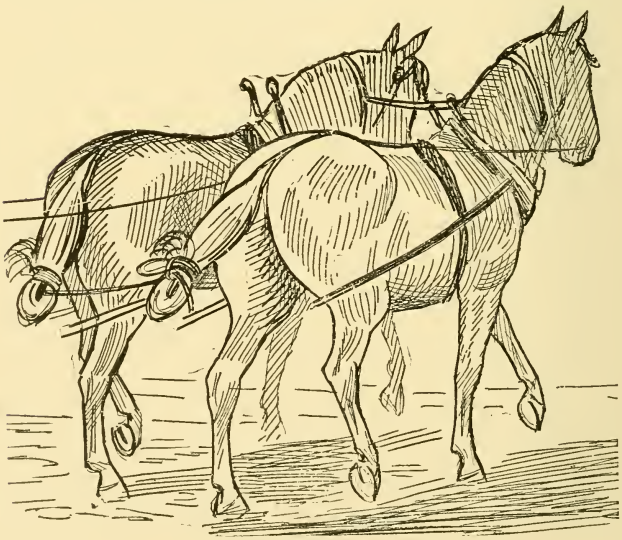
The object in writing is twofold; first, to give a more complete description of the means, and especially the methods, than has heretofore been observed by other writers on the subject; second, to be able, at least to a degree, to ameliorate the sufferings of our horses in the hands of those who would treat them more humanely if they only knew the means and methods by which they could effectively do so in an intelligent manner. We must not charge the abuse of our horses entirely to the naturally cruel dispositions of their handlers, but to a want of the proper means and methods, also, to the inherited impression in man that the horse is only a brute to be driven, driven, driven, without giving this noble servant credit for scarcely any of his innate intelligence.

The close attention given this subject by the author for more than forty years, and a study of the natural laws by which the horse can be made as obedient and useful an animal as treads the earth, though the means and methods of his education, is the reason for dwelling on the humanitarian side of the question.

The author confidently believes that when the young men of today fully understand the underlying principles of horse sense, that our equine friends will be handled more humanely, and there will be a better understanding between men and horses.

Note.—An old Mexican method of drawing loads, and especially the plow, by the tail of animals, was brought out at a Farmers' Institute

at Hagerstown, Md., while the author was talking on this important subject, through a Mr. Daniel Reichard, who had traveled extensively and had seen many methods of handling horses. He said "he had seen many horses and mules in Mexico drawing the old crude wooden plows hitched only by their tails to the beam of the plow." And once while riding with a Mexican in Texas on horseback, they came across a darkey, who with his mule were stuck in the mud and both discouraged. After many attempts to get out of the dilemma, he said the Mexican asked the darkey if he would like him to help him out of the difficulty. The darkey replied that he would like his help very much, but he could not see how he could pull him out "without a harness on his hoss." He said the Mexican took his lariat and tied a similar knot with it in his horse's tail; then tied the other end to the shaft of the darkey's cart; told the darkey to make his mule pull his best when ready. The Mexican got on his horse, gave the word, and by the use of his spurs, his horse pulled cart, mule and darkey out of the difficulty by the tail, before the mule had time to straighten himself in the harness. To the surprise of the author, Mr. Reichard stepped forward and tied the knot with the familiarity of an old hand at the business.



Cut No. 102.

A PAIR OF HORSES CONNECTED WITH EACH OTHER AT BOTH ENDS.

IMPORTANCE OF KEEPING A TEAM OF HORSES FROM SEPARATING.

In the commencement of the handling of wild horses in harness, one of the first considerations is to keep the team in close contact with each other. Never let a team of horses get in such position that they can act independently of each other, or we are in trouble at once if they are so disposed. By having a good strong neck strap on each horse with a coupling connection, we are enabled to hold the front ends of the horses as close together as we desire, and by connecting the tails with rope or strap (with the character of knots heretofore described in picketing horses on the prairie, cut No. 70), we are able to keep the rear ends of the horses at any required distance. See cut No. 102.

When the horses are securely connected as described, we can take hold of the lines and drive them with the harness only at first. It is always better in the beginning to use an old steady horse with the newly captured one, so that the experienced horse can act as a teacher for the inexperienced. After driving about for a short time, and stopping and starting frequently so that the new horse may learn what this means, they may be attached to a log, stone-boat or sled and driven about to this for a sufficient time to get them accustomed to pulling and working together; then they may be hitched to a heavy wagon with rub-lock, so that in case the rattle of the wagon frightens the young pupil we can make the draft sufficient to regulate the speed as we may desire.

THERE IS ALWAYS A WAY IF WE WILL GIVE THE MATTER DUE CONSIDERATION.

Many of the readers of Horse Sense may think there is entirely too much stress placed upon the security of our horses in the beginning of their education (in youth and maturity), but it is far better to provide against accidents than to try to correct bad habits after once acquired. We should always keep in mind the natural laws governing the actions of our horses and then, knowing the greater strength of the horse to that of man, we must provide against probabilities as well as possibilities.

CHAPTER XXXVIII.

MISCHIEF IN THE HORSE'S STOMACH.

We sincerely hope that the reader will feel that we are fully justified in our frequent references to the welfare of our horses, and the advantages to their owners of breeding, feeding and general care, also in urging the desirabllity of keeping them in a healthy and vigorous condition.

The most common fault in dealing with the horse, and particularly his stomach, and probably the most mischievous and detrimental, is in giving water just after a full feed of grain. Grain, unlike hay, has to undergo gastric digestion in the stomach, where the nitrogenous elements have to be taken care of, and if, by the addition of water, the grain is forced from the stomach into the bowels before this character of digestion is accomplished, the food is practically lost.

TOO MUCH WATER AFTER FEEDING IS A GREAT MISCHIEF MAKER.

Excessive draughts of cold water after feeding is a great mischief maker, producing vascular congestion, and frequently violent muscular contractions. It lowers the temperature, and otherwise intereferes with digestion, and naturally tends to promote disorders of a dangerous character. At particular times a copious drink of water of only moderate temperature is full of mischief.

It is a good plan to always allay the thirst of the horse before giving grain, and if any water is given after feeding, it should be but a few, and only a few, swallows, until the digestion of the stomach is completed.

TAKE WATER TO THE FIELD FOR THE HORSE AS WELL AS THE MEN.

When the farmer is working in the fields, the horse generally is obliged to go from morning until noon, and from noon until night, without water, when his driver is very careful to provide himself with plenty of drinking water, and takes it often; never thinking that the mute horse is suffering more than he would, if he had forgotten to provide for himself. A five-gallon keg, or one that will hold more, and a pail, should be provided from which to give the horse an occasional small drink of water, which would be as fully appreciated by the horse as the driver's drink is by him, and is but little trouble to take to the field.

THOUSANDS OF HORSES DIE ANNUALLY FROM TOO MUCH WATER AT A TIME.

Thousands of horses die every summer from the effects of drinking too much cold water, after having to go so long a time before being supplied with that natural and necessary beverage.

DIETING HORSES.

The secret of feeding horses to advantage is to keep their appetites and digestion (which are very closely allied) in perfect condition; and to do this is to study closely the differences in likes and dislikes in the tastes and relish of each individual animal, some having very marked preferences for one article of food, and strong dislikes for others, one horse doing well and thriving on some foods, while others will fall off in flesh on the same diet.

HORSES HAVE AN AVERSION TO FOOD OR DRINK OF A GREASY NATURE.

Almost all horses have an aversion to food or drink of a greasy nature, and yet there is occasionally one that will go to the swill barrel and fill up on its contents of every character.

SOME HORSES CAN BE TAUGHT TO EAT TOBACCO AND DRINK ALCOHOL.

Some horses can be taught to consume tobacco and even alcoholic drinks, and as a stimulant the latter has been used to a considerable extent for faint-hearted racehorses. But the administration of stimulants is not to be commended, as a rule.

HAY AND GRAIN REGULARLY BETTER THAN CONDITION POWDERS.

Good, clean grain and hay, with water at regular intervals and in moderate quantities, is the best for all horses, and when so treated, there is rarely any call for stimulants or appetizing foods, such as condition powders, and a long line of appetizers, blood regulators, etc., so freely advertised.

DRUGGING HORSES.

Among the most pernicious ideas which possess the minds of many farmers and would-be horsemen is the notion that almost any one can "doctor a horse;" that some kind of medicine must be given to every one upon the least symptom of disease; and that, when he is well and thrifty, some drugs must be given him now and then to keep him so. The reader will not have to strain his thinker very badly to recall some one who believes that good feed, exercise and comfortable quarters are not nearly so essential to health and thrift as a few doses of condition powders, given occasionally; that foul water and no salt is all right, if he has a little sulphur and copperas once in awhile.

PROPENSITY TO USE DRUGS WITH OUR HORSES.

One of the most unaccountable traits in the makeup of many men is the propensity to drug animals, and to be deluded by the bostful pretensions of ignorant vendors of nostrums, warranted to cure all ills, restore shattered constitutions and be a perfect substitute for good, wholesome food and proper, humane treatment.

MEDICINES RIGHT AND PROPER IN THEIR PLACE.

No one will deny that medicine in the hands of one competent to make a correct diagnosis and skilifully administer the same (when the horse is sick) is a powerful agent for relieving a majority of all the ills to which the horse is subject.

DRUGS HIGHLY INJURIOUS, WHEN NOT SKILLFULLY HANDLED.

The point we are trying to make is that medicine not skillfully handled is highly injurious, even dangerous, and, with the exception of a few simple remedies, should be given only by a skilled veterinarian.

IT IS FOLLY TO EXPERIMENT WITH DRUGS ON THE HORSE.

A most inexcusable folly is that of experimenting with drugs on the horse every time he shows some trifling ailment. Yet this is not a very uncommon practice in dealing with the sick horse. If the animal dies under the treatment, as it does sometimes, the owner consoles himself with the reflection that he tried everything he could hear of, and did his best to save the horse. If, by some happy circumstance, the horse overcomes both the disease and the bungling treatment, the owner pats himself on the back and believes he is a natural "hoss doctor."

THOUSANDS RELIEVED BY SKILL, AND MORE KILLED BY BUNGLERS.

Thousands of diseased horses are relieved by our skilled veterinarians, but a good many more are killed outright by bunglers, who try to practice a profession they know nothing about. Others are injured and some ruined by constant dosing with quack nostrums and cure-alls.

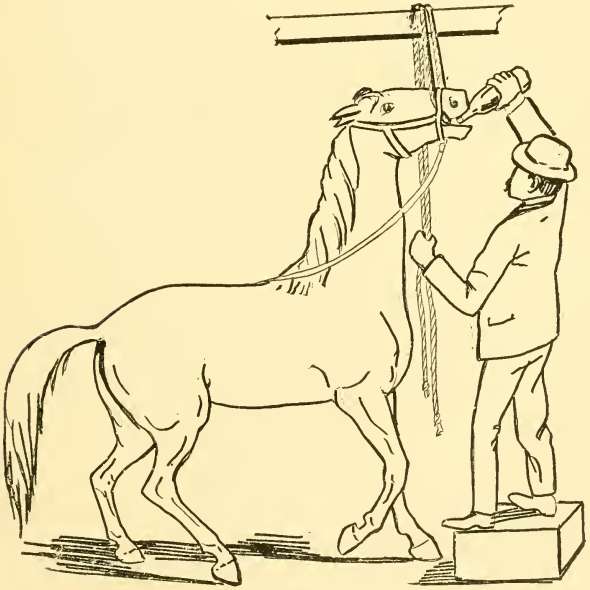
REST WHEN AILING, GOOD TREATMENT WHEN SICK AND LET ALONE WHEN WELL.

With rest, quiet and proper surroundings, nature will correct her own slight disorders. Use judgment and discretion in cases of emergency requiring treatment. If the case is serious, leave the treatment to one skilled in that line. But above all, when the horse is well and thrifty leave him alone.

DRENCHING HORSES.

Whenever it is necessary to give fluid medicines to horses, it should be done in the most convenient and humane manner. Too often it is

seen that the horse's head is drawn up high, by throwing the halter strap over a beam in the barn, holding the jaws together by pulling on the under jaw, and then pour half the prescribed dose into the horse's mouth and pound him on the throat to get him to swallow. By this method, every move is in opposition to the natural instincts of the animal. The jaw-strap of the halter has the effect of holding the mouth closed from its pressure on the under jaw. The pounding or pinching of the throat also tends to the contraction of the muscles of the neck and operates against the horse swallowing. Now it should always be remembered that any pressure on the horse's palate (roof of the mouth) induces him to open his mouth and hold it open as long as this pressure is made. The illustration shows a very simple and effective manner of handling the horse's head while giving fluid medicines. The picture shows for itself. See cut No. 103.



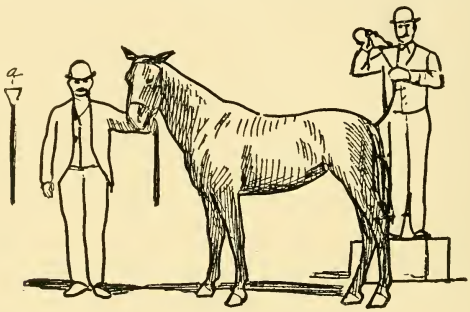
Cut No. 103.
PRACTICAL METHOD OF DRENCHING THE HORSE.

A small rope the size of a clothes line ,slipped under the nose-band of the halter and into the horse's mouth and lifted high enough so that the medicine will gravitate back in the mouth, will answer about as

well as drawing it over a beam. Either will answer this purpose, but instead of pounding the horse on the throat to get him to swallow, just tickle him a little with the neck of the bottle in the roof of the mouth and give time for the horse to close his mouth, and he will take the medicine very readily in the majority of cases. Don't strain the head too high as that very much interferes with swallowing.

CHEAP AND PRACTICAL SYRINGE.

Since it is well known that injections for the horse per rectum are about as valuable as those given per mouth, it is important that every horse owner provide himself with one of these inexpensive instruments. It consists of an ordinary tin funnel, to be had at any hardware store,



Cut No. 104.
GIVING MEDICINE BY INJECTION.

and a piece of rubber tubing of just sufficient size to be stretched over the spout of the funnel. The rubber tubing is to be oiled and inserted into the rectum from four inches to one foot, and then the funnel lifted as high above the horse's back as the tubing will allow, and then the medicine or injection material is to be poured into the funnel and let it gravitate into the bowels, as shown in cut No. 104.

WATCH THE HORSE'S FEET.

Too much care cannot be taken of the feet. It is much easier to keep the feet sound than to cure them after they have become injured by neglect or carelessness.

If your horses' feet have become hard, soak them in water, or apply a poultice of flax seed. A pad made of a piece of an old blanket, or some woolen cloth, thoroughly wet and fastened around the hoof, will allay fever and keep the feet in good condition. .

WHERE TO FEED THE HORSE GRAIN.

The most natural position for the horse's food to occupy when he is eating, it is on the ground. In ordinary cases, it is certainly the one

which is the most conducive to his health, because it obliges him to eat more slowly, offers more facilities for the saliva to flow from the salivary glands into the mouth, and gives more exercise to the muscles.

DRINKING WATER FOR HORSES.

Horses are so fastidious as to the quality of their drinking water, and grooms are often so careless of this fact, that we feel certain it is a mistake to have a fixed water vessel alongside of a horse, which, we may be quite sure, will not be cleaned out as frequently as necessary. Observation convinces us that when a horse has a basin or bucket of water constantly in front of him, he will undoubtedly slaver into it and foul it, so that its inner surface will soon be covered with mucous and dirt, which will not be always cleaned away by the groom, even if he be careful enough to keep the vessel constantly full. When the receptacle is a fixture, the cleaning-out process can be accomplished only with difficulty.

THE HAY MANGER.

The hay receptacle should never take the form of the old-fashioned hay-rack, which is placed high up, and which consequently is not an uncommon indirect cause of inflammation of the eyes, from irritating particles dropping out of the hay into them. Besides, with these hay-racks, many horses get into the idle and provoking habit of pulling out the hay, irrespective of their desire to eat it, until all the hay they have not consumed is scattered over the floor, and more or less "messed" about.

MANGE IN HORSES.

This annoying disease is characterized by irritation and itching of the skin, causing the horse to rub himself whenever the opportunity offers. There are several kinds of this disease, but nearly all may be relieved, and generally cured, by removing the scabs with a brush, soap and warm water, and then applying a strong decoction of tobacco, which can be made by putting one and a half to two ounces of tobacco in one quart of water. The operation should be repeated in about two weeks, to destroy the new brood. The barn and stalls should be white-washed. The parts generally affected are at the roots of the hair of the mane, along the back and tail, head and sometimes the heels and lower portions of the legs.

FATIGUE, A CAUSE FOR DISEASE.

If a horse is tired when he comes to the barn we should not water him immediately, nor should we give him a feed, but first allow him to become rested.

The following methods should be observed in feeding and watering horses:

Avoid sudden change in the kind of food.

Avoid sudden changes from whole food to ground food, and vice versa.

Limit the quantity of food to what can be easily and thoroughly digested.

Water before feeding.

Never feed or water a horse when exhausted or very tired.

CHAPTER XXXIX.

MISCELLANEOUS RECIPES.

It is not intended to make Horse Sense to any special degree a veterinary work, but there are a few recipes that have been found to be excellent in the majority of cases, and for the convenience of those interested, a limited number are given in the hope that they will meet the wants of its readers.

REMEDY FOR COLIC.

We should give these cautiously, as conditions alter cases to that extent that remedies should be varied to meet the conditions. One of the first remedies is ginger. Take about half a teacupful of powdered Jamaica ginger, pour on cold water till the cup is full, stir thoroughly after a minute or so, and then gradually add hot water until it is about as warm as the horse can stand. Give as a drench. Immediately afterward, if there is a tendency to bloat, put a heaping teaspoonful of saleratus in half a pint of warm water and give to the animal. This will correct any acid condition of the stomach or intestines, and often relieves bloating at once. Injections of warm water and soap will be found a relief for the difficulty. If the colic is due to over-feeding, give raw linseed oil. If the horse is of ordinary size, say 1,200 pounds weight, then give a quart to a quart and a half, and if he weighs from 1,400 to 1,600 pounds, then give from a quart and a half to two quarts. It will be found the above method of treating colic is as effective as using the most expensive drugs, providing the treatment is begun in the earliest stages of the disease.

COLIC REMEDY.

Carbonate ammonia ..... 1 drachm.
Tincture Ginger ..... 1 ounce.
Water ..... 1 Pint.

Mix and drench the horse. If the acid or gas exists in the bowels, substitute lime water for the ammonia and add half an ounce of tincture Gentian. When the carbonate of ammonia is not at hand bi-carbonate of soda will answer. The addition of injections will be a great help in relieving the bowels of gas and fecal matter. Soap-suds as an injection will be indicated in almost all cases. If the above remedy does not give

relief in half an hour, it will be well to give the following every three hours until it operates:

Turpentine..... 1 ounce.
Raw linseed oil..... 1 quart.

Mix and give at one dose. Then follow up with the first named colic remedy above, every hour until the horse is comfortable and eating.

FLATULENT COLIC.

Powdered grains of paradise..... 1 teaspoonful
Powdered caraway seeds..... ½ teaspoonful
Oil peppermint..... 20 drops
Powdered slippery elm..... 1 tablespoonful
Hot water..... 1 pint

Mix, give one dose and repeat if necessary. It is perfectly harmless.

If the disease proves a complicated one, no time should be lost in calling a competent veterinarian.

DIARRHEA—SCOURS.

Powdered ginger (African)..... 3 drachms
Powdered charcoal..... 2 drachms
Flour gruel..... 1 pint
Oil peppermint..... 20 drops

Mix and give at one dose, which may be repeated in six hours if the disease is not checked. We should not be in too great a hurry to stop the diarrhea or we will be in greater trouble. If the liver is involved in the difficulty, we may give a few doses of the following:

Powdered gentian..... 2 ounces
Powdered ginger (African)..... 1 ounce
Salt..... 1 ounce

Mix and give in half ounce doses twice a day. The first may answer the purpose, but it may require both to accomplish a cure.

SCOURS IN THE YOUNG FOAL.

This is a matter of more than passing notice. The young foal is dependent on its dam for all the food it gets, consequently our attention should be to the feed and care of the mother of the colt rather than the colt itself. If the food is not sufficiently nourishing for the requirements of both, it will first show in the colt. But if the food for the mare is generous and she is a glutton in both eating and drinking, the colt is very apt to have an attack of the scours, and instead of treating the colt for the disease, we should cut down on the feed and drink of the mare, and the trouble will soon be over with. Sometimes, limiting the water supply to the mare will be all that is necessary to relieve the colt of scours. A raw egg broken in the mouth of the colt and swallowed is beneficial, but will not relieve the difficulty without attention to the feed and drink of the dam.

SLAVERING.

Powdered bayberry bark..... 1 ounce
Powdered gum myrrh..... 1 ounce
Powdered goldenseal..... 1 ounce
Powdered ginger..... 1 ounce
Powdered sulphur..... 1 ounce

Mix and divide into eight powders, giving one (in fine feed) night

and morning. In some cases it may be necessary to use astringent mouth washes, composed of bayberry bark, witch-hazel, alum, etc., either of which is good where astringents are indicated.

PREPARATION FOR THE EXPULSION OF BOTS.

Powdered male fern	2 ounces
Powdered aloes	1 ounce
Powdered poplar bark	4 ounces
White mustard seed	2 ounces
Common salt	6 ounces

Mix and divide into eighteen doses, giving one each night and morning in the feed. If the horse can have the advantage of some green food, the better.

The nits or eggs from which the bots derive their start is deposited by the female Gad-fly upon the front legs of horses principally, and they can be removed by greasing the hair of the legs and then rubbing with a coarse cloth, or washing with warm water.

THE HORSE'S STOMACH THE NATURAL HOME OF THE BOT.

Now please don't take it for granted that this remedy is given for the expulsion of the bots, because we believe that they injure or disease the horse in the least. But it is given to satisfy those people who are sure that bots are a very dangerous enemy to the health of the horse. The preparation is one that will do no harm if it does not remove all of the bots, and as good for the purpose as anything that we know of.

INDIGESTION.

Powdered ginger (African)	2 ounces
Powdered poplar bark	2 ounces
Powdered asafoetida	2 ounces
Powdered sulphate iron	5 drachms
Powdered capsicum	1 drachm
Oat-meal	1 pound

Mix, divide into sixteen parts, giving one each night in the feed.

WORM REMEDY.

Powdered wormseed	2 ounces
Powdered mandrake	2 ounces
Powdered sulphur	2 ounces
Powdered ginger (African)	2 ounces
Powdered charcoal	2 ounces
White mustard seed (whole)	2 ounces
Salt	2 ounces
Powdered poplar bark	1 pound

Mix and divide into twenty powders, and give one night and morning in the feed. This will improve the health of the horse and have a tendency to expel the worms.

Note.—Many of the so-called worm remedies are not reliable for all cases and character of worms. If they are small worms, injections of salt water or decoction of quassa chips will remove them.

WORM MEDICINE.

Turpentine..... 1 ounce
Raw linseed oil..... 6 ounces
Mix and give at one dose, repeat once a week for three weeks.

INJECTION FOR PIN WORMS.

Aloes..... 1 ounce
Hot water..... 1 quart
Mix by dissolving the aloes in the water and when blood warm use as an injection. This has an effect on the worms and inclines the horse to evacuate the bowels.

DRY COUGH.

Marsh mallow root..... 2 ounces
Treacle..... 4 ounces
Water..... 3 pints
Mix and boil to one quart and give as a drench at night.

CHRONIC COUGH.

Tar water..... ½ pint
Lime water..... ½ pint
Powdered squill..... 1 drachm
Mix and give this amount every morning until better.

BRAN MASH.

Bran, ½ peck; boiling water enough to wet the bran thoroughly, when worked with a stick. Cover and let stand until blood warm.

COUGH MASH.

Ground oil-cake meal..... 2 quarts
Sugar..... 2 ounces
Boiling water..... 6 quarts
Simmer for three or four hours and give at night. This is food, medicine and comfort to the horse.

SPRAINS AND OLD SWELLINGS.

Camphorated spirit..... 2 ounces
Spirits ammonia..... 2 ounces
Oil turpentine..... 1 ounce
Laudinum..... ½ ounce
Oil oraganum..... 1 drachm
Mix and bathe the parts every day with good hand rubbing.

SWELLED LEGS.

Many horses' legs swell when confined to the stable and the following has been found beneficial, constitutionally as well as locally:

Pulverized asafoetida..... ½ ounce
Cream of tartar..... 1 ounce
Powdered gentian..... 2 ounces
Ginger (African)..... 2 ounces
Powdered poplar bark..... 4 ounces
Mix thoroughly and divide into six equal parts, one part to be given

in the feed each night, to regulate the digestion. If it is an old chronic case ,it may be followed by the following:

Powdered goldenseal..... 1 ounce
Powdered gentian..... 1 ounce
Powdered balmony..... 1 ounce
Flaxseed meal..... ½ pound

Mix and divide into six parts, giving one night and morning in the feed. The legs should be well hand-rubbed daily and if this does not reduce the swelling, the following may be used as a liniment:

Essence of cedar..... 2 ounces
Tincture capsicum..... 1 ounce
New rum..... 1 pint

Mix and bathe the legs well every night, or for a little stronger remedy take:

Spirits ammonia..... 2 ounces
Olive oil..... 8 ounces

FOOT SORE HORSES.

Linseed oil..... ½ pint
Spirits turpentine..... 4 ounces
Oil tar..... 6 ounces
Oil Oragamm..... 6 ounces

Mix and apply all over the feet with a sponge, often.

FEVERED LEGS.

Chloride ammonia..... 4 ounces
Tincture asafoetida..... 2 drachms
Acetic acid..... 1 gallon

Mix and use one ounce to the quart of water or witch-hazel for bathing the legs after a drive.

CRACKED HEELS.

Goulards' extract..... ¼ ounce
Tannin..... ½ ounce
Gum camphor..... ¼ ounce
Charcoal..... 1 ounce
Sulphur..... 2 ounces
Lard..... ¼ pound

Mix and apply to the affected parts.

REMOVAL OF WARTS.

Warts with a broad base can be removed by taking a suture needle and threading with two strong ligatures. Pass the needle through the base of the wart down to the skin and tie each half of the wart separately with a surgeons knot and cut the threads close to the knots. If the work is well done the wart will drop off in a short time. A wart with a small pedicle can be removed by a single ligature, or with the Ecrasuer.

BODY WASH.

Aqua ammonia..... 2 ounces
Tincture opium..... 2 ounces
Tincture cantharides..... 2 ounces
Compound soap liniment..... 1 pint
Witch-hazel..... 1 pint
Rain-water..... 1 pint

Mix and use about two ounces of this to the pint of rain-water, to be

used after scraping out the horse at the termination of a very heated drive. This should be used quickly, rubbing into the hair thoroughly over the loin, shoulders and quarters and then walk the horse under blankets or rub dry. It will leave the hair in fine condition and have a tendency to tone the skin and take out the soreness of the muscles. This will make enough for about twenty-five to thirty washings.

DISINFECTANTS FOR WOUNDS.

That it is necessary in veterinary science, as well as in the human, to give great attention to the disinfection of all wounds, there is no longer any question. If the bacteria can be kept out of wounds we have little or no trouble in the healing process. But once the wound becomes thoroughly infected, then the process of rapid recovery is arrested, and sloughing is apt to follow. A 1 per cent solution of mercuric chlorid is sufficient to destroy the bacilli, and will be found useful in the treatment of almost all character of wounds and aid in rapid healing.

CHARCOAL TAR.

Charcoal tar is useful about wounds as antiseptic and especially in diseases of the feet of animals.

SUGAR AS AN ANTISEPTIC.

Powdered sugar (pure) is an excellent remedy for strongly granulating wounds, and acts as a dryer, and aids in forming a scab, under which healthy granulations have a chance to form, as well as acting as a barrier against microbes getting into the wound. It can be dusted into the wound with little or no trouble and where there is but little supuration it is just as well to let the wound alone.

FENCE WIRE CUTS.

Probably no other one thing gives the farmers of the country more trouble than the wounds from barb-wire fences. Almost all these cuts are across the muscular fiber and it is (as a rule) but little use to stitch them up, on account of the muscular contractions of the skin of the horse. As a rule it is far better to let them alone than to treat them in the usual way; with harsh stimulating and destructive preparations—operating against nature's efforts—tearing down tissue faster than it can be manufactured, annoying the animal to no purpose, etc., etc. Pure charcoal tar around the wound to protect the borders, and powdered sugar dashed into the wound (if it is self draining) and let the horse have exercise, is as much as is beneficial. In fact if the horse is at pasture, and he is so he can get about at all, it is better to let him alone entirely, than to put him into a foul stable and wash and torment the horse with daily treatment. For twenty years we have had from twenty to over one hundred head of horses running in pastures surrounded with wire fences, and as a consequence more or less of them were injured, and in the beginning we gave ourselves any amount of work and worry, and had many bad scars. We have learned to almost entirely let them alone, and the scars now from wire cuts are scarcely perceptable.

SCRATCHES.

Sugar of lead..... 2 drachms
Sulphate of zinc..... 1 drachm
Infusion of oak bark..... 1 pint

This is a mild and useful application for scratches where the horse is not otherwise diseased. Cleanse out the affected parts and bathe thoroughly with this wash and bandage. Use no grease.

ANOTHER FOR SCRATCHES.

Blue vitriol..... ¼ ounce
Alum..... 3 drachms
Water..... 1 pint

This is a strong application and should not be used until other has failed, and the health of the horse taken into consideration.

WASH FOR OLD SORES.

Sulphate of copper..... 2 drachms
Water..... 1 pint

This is good for stimulating and cleansing out old sores that are difficult to heal.

WASH FOR MANGE.

Tobacco..... 2 ounces
Salt (common)..... 3 ounces
Bar soap..... 2 ounces

First boil the tobacco in one quart of water and strain. Then add the soap cut up fine and then the salt. Wash the affected parts daily for ten days. Or for a day or two, and then in three or four days, and keep it up for two weeks. This will also kill lice.

GREASE HEEL.

Sulphate of copper..... 2 drachms
Alum..... 2 drachms
Water..... 1 pint

Keep the parts as clean as possible and bathe with this lotion. Avoid any greasy preparations.

THRUSH.

This is a disease of the feet, in the cleft of the frog. With geldings and stallions, it often attacks the front feet, and in mares the hind feet, from the moisture and filth of the stable generally. It is detected by moisture of the parts, with an offensive smell. If there is much destruction of the frog, all the ragged portions should be cut away, the foot thoroughly washed with tar soap and warm water, and the cleft or cracks well filled with dry calomel. If badly affected, this dressing should be applied every day; but if only a mild case, it may remain for three or four days without repeating. Sometimes the condition of the blood of the animal will require constitutional treatment.

Some use a weak solution of blue vitrol, others butter of antimony and other salts. A good compound for thrush is made by taking one ounce each of red precipitate, blue vitriol and powdered white sugar and half an ounce of burnt alum, mix and apply to the affected frog.

BAD THRUSH.

Barbadoes tar..... 1 ounce
Ail of turpentine..... 1 ounce
Oil vitriol..... 1 drachm

Mix the first two carefully and then add the vitriol. The parts should be carefully cleansed and then the remedy applied. Should be used about every third day until the offensive smell has disappeared, and looks generally better.

FOR SPLINT.

Camphorated spirits of wine..... 2 ounces
Oil of turpentine .....½ ounce
Oil oraganum..... ½ ounce

Mix and apply to the affected parts night and morning for a few days, or until a moisture is noticed and then wait a few days and then repeat.

FOR ITCHING HUMOR.

Oil tar..... 2 ounces
Oil turpentine..... 2 ounces
Seal oil..... 2 ounces

Mix and apply to the itching places once every second day for two or three times and then wash. Repeat if necessary.

LICE ON HORSES.

All young horses that do not appear to be doing well, even on good feed, should be carefully examined in the bright sunlight, by parting the hair on the shoulders, side of the body, along the back, under the mane, and about the root of the tail, for the presence of lice. If found, take a whisp broom, dip it in an open dish or pan containing kerosene, whip off the surplus kerosene, and draw or brush along the back, shoulders and sides of the horse, without wetting the hair excessively. Repeat in two weeks to kill the newly hatched crop, as the first application will not kill the nits. In cold weather, gasoline will answer a better purpose, from its rapid evaporation, and is generally preferable to kerosene or insect powder.

COLLAR AND SADDLE GALLS.

Wash thoroughly with castile or tar soap and warm soft water, rubbing the soap well into the parts affected, handling gently, and allow the lather to remain until dry; then apply any simple astringent wash, such as a decoction of oak bark, witch hazel, etc. Fifteen parts of glycerine with one part of carbolic acid is also effective. Twenty grains of sulphate of zinc in an ounce of water is a very good application.

CARRIAGE TOP DRESSING.

Oil sassafras..... ½ ounce
Gum camphor..... ½ ounce
Lamp black..... ½ ounce
Rosin..... 1½ ounces
Gum shellac .....3 ounces
Wood alcohol..... 1 pint

Mix and use with a brush, keep well corked and shake before using. The shellac should be first cut with the alcohol, then add the gum

camphor, then the rosin (powdered) and then the other ingredients. This makes an excellent dressing. By leaving out the lamp black it can be used for fair leather or tan shoes.

KEROSENE EMULSION FOR HARNESS.

Take one bar of good strong washing soap, dissolve in a quart of water and bring to boiling, then add one pint of kerosene oil, and stir the whole until it combines to make a creamy emulsion. Have a tub of warm water, into which mix the emulsion, and into this place the harness and let it soak some time; then with a stiff brush rub and brush the straps thoroughly and they will come clean very easily. Let the leather dry a little, until it seems dry on the outside, and then apply the harness oil; either neatsfoot or fish oil. To make the leather black, mix a little lamp black up with about one-fifth as much kerosene as harness oil and mix together and then give the leather a good oiling. Old straps which were so brittle as to crack seriously when bent are restored to their original softness and pliability by this treatment. If a new harness is treated twice a year in this way it will always keep soft and in good order. For fixing leather carriage tops it is necessary to wash over several times with the emulsion to get it damp enough to oil; then apply the oil as in the case of the harness.

CARE OF HARNESS.

The care of harness has a great deal to do with its appearance and lasting qualities. Before oiling the harness should be all taken apart and thoroughly washed with warm water, castile soap and a brush or cloth. When nearly dry apply "neatsfoot" oil with a sponge or woolen rag, and such parts as are exposed to the perspiration of the horse and mud, should have an additional application of oil. We should never hang the oiled harness near the hot stove or in the hot sun to dry. It should be kept in a room of moderate temperature until the oil has effectually penetrated the leather.

MAKE THE HARNESS LOOK LIKE NEW WHEN OILING.

To make the harness look like new when oiling we have only to clean the leather thoroughly when washing, and then add to one pint of "neatsfoot" oil a tablespoonful of lamp black and one or two ounces of melted bees-wax and stir thoroughly when adding these two to the oil.

SPONGING THE HARNESS.

To keep the harness clean and looking nicely, we have only to sponge or wipe the harness with castile or black harness soap and a very little water, as often as the harness is gummed or dusty. This can be done quickly and it adds very much to the appearance and lasting qualities.

HANGING THE HARNESS IN THE STABLE.

The harness should always be hung in such part of the stable as not to be exposed to the fumes of ammonia generated by the manure. This will injure the leather of the harness more than its every day use. You

will always know the effect on the leather from ammonia from the whitish appearance of the leather and the rapidity of the stiffening of the leather—it soon loses its pliability.

HANGING UP THE HARNESS AFTER BEING IN A RAIN STORM.

Whenever we come in the stable after getting the harness soaking wet, we should be very careful how we hang it up to dry, because leather drying out of form always weakens it at the places where the leather is bent out of its usual shape. Either hang the harness all straightened out or lay it carefully straightened on the floor, and when partially dry sponge it off with castile soap.

CHAPTER XL.

QUESTIONS AND ANSWERS.

The following questions and answers are a compilation of some of the many questions that have been asked and answered in connection with the Farmers' Institute work of Minnesota, by good veterinary authority, in relation to those that pertain to disease, etc., the others by the author.

ANSWERED BY THE AUTHOR.

Would not the method of tying the horse by the tail to make him pull be considered inhuman treatment in fly and mosquito season?

Ans. Yes; it would if the horse was expected to go a long distance tied in that way by the tail. But a few rods work hitched by the tail will, generally, be sufficient to satisfy him that he had rather pull the load by his shoulders, and have the use of his tail for his protection against flies and mosquitoes. Be sure, however, that you do not get your horse angry and disposed to "sulk" before you hitch him by the tail, or he may not go at all.

At what age is it best to break a young colt to the halter—and how?

Ans. When ten days or two weeks old is about the best time to begin his education to the halter, and the best method is fully represented in connection with cut No. 29.

What age is best to harness and drive the colt?

Ans. This is also well represented and illustrated in cuts No. 30 and 31.

How would you handle all vicious and tricky horses?

Ans. To answer this question satisfactorily would require more time and space than is allowed here, and we would refer all those interested to chaptersXXXIII and XXXIV.

How do you account for so many of our horses of the present day having bad legs?

Ans. The principle cause is the use of stallions and mares for breeding purposes that have defective legs. Stallions have the power to transmit their defects as well as mares (if not more) and when both are defective in like manner we could not reasonably expect perfect foals. Nature abhors incongruities—the perfect cannot be produced from the inherited imperfect.

Have you any method that you consider good for the care and wintering of stallions?

Ans. Yes; you will find this subject considered at length in chapter VIII.

What do you consider the best treatment for "scours" in a young colt without giving much medicine?

Ans. In our long experience with many foals every spring we have found that proper care of the dam to be the best treatment for "scours." The general cause of this trouble is a too copious flow of milk, usually from the mare drinking large quantities of water, which is easily remedied by giving only small draughts of water at a time and cutting down on the grain ration for a short time, and the "scours" soon disappear. But as long as the mare drinks large quantities of water and is richly fed, the chances are that the colt will not improve in condition. A dose of castor oil may be given to the colt.

What is the proper care of the colt's feet before he reaches the age for shoeing, for the best results for the future of the horse?

Ans. Be sure and trim the feet often and keep them as nearly level as possible all around, so as not to have the bearing unequal on the sides, not too long at the toe, or the heels so high as not to get good "frog" pressure, is the surest method of keeping the feet in proper shape for the best results for the future horse.

Do you approve of the blacksmith cutting away the "sole" and "bars" of the horse's feet preparatory to shoeing?

Ans. No, indeed; the thinner the "sole" is pared and the more the "bars" are cut away, the sooner the horse will suffer from dryness of the feet and consequent contraction, bruises, corns, etc.

Is it a good practice to rasp away the outside horn of the horse's foot up as high as the nails clinch to make a nice, smooth job in shoeing?

Ans. The outside glossy coating of the horse's foot is nature's protection for the preservation of the moisture of the foot, and the more rasping is done the more exposure, and consequently the greater danger of drying and shrinking up of the horse's feet. Elasticity is needed in the feet as well as other parts of the body, but not to the same degree, yet if the moisture of the feet is allowed to escape by rasping and cutting at the feet unnecessarily, the more danger there is to the inside structures being injured. Keep the feet as nearly natural as possible in conformation, with good, strong "bars," "soles" and elastic "frog" and the liability to lameness will be very much lessened.

What is the relative value of a springy or oblique "pastern" over a straight or upright "pastern?"

Ans. That would depend somewhat on the usage of the horse. While a springy "pastern" is always preferable to an upright one, the road horse must have springy "pasterns" or soon go sore (unless he is a very low gaited horse). More lameness results from straight inelastic "pasterns" than any other cause (excepting accidents). The heavier the road horse with upright "pasterns" the sooner and more surely will he suffer.

Do you think the rigid use of a "bitting harness" good for colts before they go into harness practice?

Ans. No; it too often "sours" the disposition, cramps the muscles of the neck, injures the mouth and frequently spoils an otherwise good

and useful horse. We have no objection to putting a bit into the colt's mouth, but to check his head up high and fasten the side straps rigidly is certainly a pernicious practice. If the "bitting harness" is to be used let the bit loosely in the mouth and check and side straps "slack."

What remedy would you recommend for pin worms in horses and colts?

Ans. Injections of aloes in solution, one ounce of aloes to a gallon of water, once a week for two weeks.

How is wheat for feed for horses?

Ans. Very good, if fed ground; mixed with ground oats it is better.

How shall I prevent a horse from rolling over in the stall and getting cast so he cannot get up?

Ans. Tie him so short that he cannot lay his head flat on the floor of his stall, or fasten a pully in the ceiling with weight that will do the same.

What good is a check-rein and blinders?

Ans. The check-rein is really of no value further than to prevent the horse from getting his head to the ground when stopped, or tied to post, or other fastening; and sometimes to prevent him being too playful when first starting out. The blinders are useful in driving "shirky," tricky horses, or where one is free and the other lazy and watching the driver.

Why do people use the cruel overhead check-rein tight for ordinary driving?

Ans. Because it is the fashion, and the drivers or owners do not realize how much discomfort they are giving their mute friends by its use. If they could fully understand how much suffering our horses were enduring for our comfort and pleasure, the overhead check-rein would never be used tight—especially on straight-shouldered horses—or long at a time, in any case, or never when left to stand or hitched to the post. Always lengthen out the overhead check for a long drive and whenever stopped.

Is there any way to prevent a biting horse from biting?

Ans. We think so; by the use of the safety bridle represented in this book, and by feeding him from the hand what he most relishes, making him first believe that we are not afraid of him, by the safety bridle, and, also, that we are his best friend. Don't hurt him when in immediate contact with him; but, if he attempts to bite, pull on the rope, and he bites himself instead of the object aimed at, and, we assure you, he will soon comprehend the situation.

How do you prevent a horse from crowding his keeper in the stall?

Ans. By the means shown in chapter XXX, cuts Nos. 52 and 53.

How do you make a horse hold up his head?

Ans. If the horse has a sloping shoulder, he will hold his head well up, naturally, if well fed. If his shoulder is straight, and his neck set low, it is very hard for him to hold his head high. By the use of the check-rein, the head can be gradually raised, by degrees, without very great inconvenience to the horse, and, in time, his style of carriage can

be improved. But too many of our would-be useful horses have been "soured," made balky, contracting the pernicious habit of pulling on the bit, and many other faults, by the use and abuse of the check-rein (of any character) in trying to make high-headed horses of them from the beginning of their harness experience. Natural style in harness is nature's graceful curves, but man's devices for the purpose often fall far short of the object attained.

How can I prevent a horse from "bucking" when he is determined to "buck" me off?

Ans. The use of the persuader, is as applicable in saddle as harness work, and can be handled from the back of the horse in taking up one front foot, as when behind him; and the horse makes a "sorry" job of bucking on three legs. Besides, he can be given the use of all his legs at any instant, or deprived, as may be desired.

What can I do to teach a horse to back?

Ans. This is fully explained at Cut. No. 63.

You spoke here of how to hitch a team on the prairie so they could feed and could be found near where they were left without a post or tether. How is it done?

Ans. This is explained and illustrated in chapter XXXII, cut No. 70.

How shall I manage a horse that is troublesome to shoe?

Ans. This is represented and shown in chapter XXXII, cut No. 72.

How can I break my horse from pulling on the halter?

Ans. See chapter XXX, cuts Nos. 60 and 61.

What do you consider the best methods of handling the "Broncho," from the beginning, for a useful and safe horse?

Ans. We devoted considerable space to this subject, under the heading of "Controlling the Actions of the Horse by His Tail," chapter XXXI. By reading this matter carefully, and complying with the details, we believe you will succeed beyond your expectations; but don't hurt him, if possible, under any circumstances, and remember that the medium of the stomach is the most direct route to his affections.

What is the best method of separating colts, at weaning time, from their dams?

Ans. As we have often said before, we prefer putting two together in box stalls, for company for each other, but, if we had but one, we would prefer to wean it beside the dam, by tying it in such a manner that it could not get its mother's milk.

What is the best feed for colts the first winter?

Ans. We prefer to commence with weaning on skimmed cow's milk (the separator preferred), by letting them go from eight to twelve hours after taking from the dam, before offering them anything; then approach them with a little warm sweetened skim-milk in a shallow pan, and watch the opportunity to suddenly lift the pan, so as to immerse the colt's nose into the milk, and take it away, letting the colt have a chance to taste the milk on its lips, when it may be repeated, and, as the colt is thirsty, it will generally take to drinking, when the trouble, ever after, is at an end. In a few days we make an addition to its ration of milk. We give

a little oil meal, and begin feeding a very little ground oats and bran, which we increase in quantity as its appetite craves, and the amount of exercise will justify. It is not good to feed colts all they will often eat, unless they have the liberty to take plenty of exercise. Well cured clover hay is, also, an excellent feed for colts the first winter.

What do you think of wild hay as feed for horses?

Ans. Together with a good grain ration, wild hay, to the amount of ten to fifteen pounds per day, we regard as excellent for horses at work. Too many farmers feed far more hay than is good for horses. Hay, like grain, should be fed as a ration, eaten up clean, and then wait until the next meal.

Is ground barley good horse feed?

Ans. Ground barley is much like corn in quality, but stock of all kinds become tired of it as a continuous feed. Horses, like people, like variety; and should have it.

Does it hurt a horse to give him water when he is warm if we do not let him stand?

Ans. No; unless he is very thirsty, and it is soon after he has had his ration of feed; and then it is more apt to produce colic than affect him otherwise.

How much water should a horse have at one time?

Ans. As the capacity of the horse's stomach is only about three and one-half gallons, it is not best to give more than that amount at any one time. We always prefer to water horses before feeding, and then the water will pass along into the bowels when the grain ration is fed; whereas, if he is fed before water is given, the food is forced into the bowels before the stomach has performed its part of the digestion, and derangement is too apt to follow.

Can a farmer raise colts and profit by them at the present prices?

Ans. That depends largely on the character of colts to be raised. If the farmer has the breeding stock to produce first-class horses of any of the three classes, viz., draught, carriage or road horses, we say he can, provided he gives them the same care and attention that is required to make a success in any other department of farming.

What is the best thing to do with a horse easily frightened?

Ans. This is usually due to an extreme nervous irritability, to a lack of intelligence, harsh treatment or defective eyes. The only available treatment is kind, uniform treatment; usually a mild bit, properly adjusted harness, sometimes open bridle works better, and on some horses a blind bridle is more satisfactory. Little can be done if the eyes are defective.

CHAPTER XLI.

ANSWERED BY DR. M. H. REYNOLDS, STATE VETERINARIAN, ST. ANTHONY PARK, MINN.

Question. (1) What is a good grain for a hard-working horse to keep him in marketable condition? (2) For an idle horse? (3) What is the best kind of hay for horses? (4) Can sweeny be cured, and if so, how? A. (1) For each 1,000 pounds live weight, fifteen pounds oats, twelve pounds hay, clover or timothy, four to six pounds of bran, if convenient, for twenty-four hours. Allow two pounds of water for each pound of dry feed. (2) Fifteen pounds of hay, with half the grain if the horse is already fat. (3) Clover or timothy. (4) Yes, usually, if the horse is not lame, by persistent irritation, e. g., severe and repeated blisters, setons or hand rubbing, with exercise.

Question. What can I do for a four-year-old colt which got kicked on the hock-cap, and an enlargement remains a month later? A. Blister with red iodide of mercury, one part, and lard or cosmoline, six parts, well mixed. Repeat in four weeks if necessary. The prospect for satisfactory results is fair, but not sure. Prevent the horse from biting the part while the blister is smarting.

Question. What causes a number of young colts to die within a few days after birth? They seem to be lacking in vitality from the moment of birth. A. The fault may be with the sire, or it may be with the dam. She may be fat and soft, or poor and weak. The trouble may be with the mother's food, and the cause may lie with the undetermined cause of epidemic abortions. Only a careful examintion will show the cause in any given case.

Question. Can benzine or gacoline be used with safety to kill lice on horses, and how? A. Yes. Put a little on a whisk broom, or any brush, and brush through the hair.

Question. How would you treat thrush in horses' feet? A. Cut off all the diseased frog, scrape out the cleft and crevices with a hoof knife, and pour a little 95 per cent carbolic acid over the diseased frog every morning after cleaning out. Avoid filthy stables.

Question. What is the cause of heaves in horses, and how can they be cured? A. Heaves are caused by overfeeding in coarse, dusty foods. There is no hope for advanced cases. In early stages turn out to grass for five or six months; afterwards feed but little hay. Sprinkle both hay and grain if dusty.

Question. Is there any cure for poll evil? A. Yes, but these cases usually require continued treatment by a skillful veterinarian.

Question. How can a spavin or ringbone be cured? A. The lameness may usually be cured by repeated blisters or well-done firing; but the enlargement will remain in spite of any satisfactory treatment that has yet been devised.

Question. What is good for colts troubled with lice? A. Corn, oats, bran and hay, aided by gasoline used carefully as in above. Kerosene and soft soap emulsion, or Persian insect powder dusted in the hair on neck, withers and back.

Question. Do you recommend feeding good oat straw to idle horses? A. Yes; clean oat straw makes a very good coarse food for horses, whether working or idle. When working, the horse needs a little more grain than when fed on clover and timothy hay.

Question. Do wolf teeth make horses blind? A. No. Leave them alone.

Question. What is the cause and proper treatment of colic? A. Anything that interferes with the digestive processes, in the whole or any portion of the alimentary canal, may cause an attack of colic, e. g., sudden changes from dry to green food or the reverse, watering after eating grain, finely ground corn meal, unmixed, excessive feeding of hay, full drink of very cold water when horse is warm, or feeding when horse is very tired, and some cases are probably due to the presence of parasitic worms in certain arteries that furnish blood to the intestines.

Question. I have a three-year-old colt which has a whitish coloration or change in the pupil of the eye with the full of the moon, and then goes blind. About five days later the spot leaves and the eyesight returns. What is the trouble? A. This is evidently a case of periodic ophthalmia, and the patient will probably go blind. Treatment would not be apt to give good satisfaction.

Question. Is cob meal ground with oats good feed for horses? A. Yes, but the cob should be ground fine—not merely crushed.

Question. How is millet, for feed, for working horses, when ground and mixed with bran? A. There is some dispute among veterinarians and feeders, over this point; but the majority of those who have studied the matter and had large experience in feeding millet agree that it is a safe and valuable food for horses if cut early.

Question. (1) Is barley good feed for growing colts? (2) How about barley straw for horses? A. (1) Barley is nearly equal to corn for horse-feed, but it should be crushed. (2) Barley straw is less nutritious than oat straw, and the beards cause a great deal of trouble to horses mouths.

Question. Which would you feed first to horses—hay or grain? A. The ideal way to feed a horse is first water, second hay, third grain, but the difference between this and grain first and hay second, as horses usually eat, is not very decided. A few horses will eat grain and hay together, which is possibly better still. The old street car system of feeding horses, by cutting hay or straw, wetting it, and mixing the ground grain, was a very safe and very economical system of feeding horses on

a large scale. By this system the horse was compelled to eat the hay and grain together.

Question. How can I dispose of bleeding tumor on the joint of the hind foot near the fetlock? A. Touch the bleeding surface with the point of a red hot iron, in case it does not come nearer than within an inch of the hoof, otherwise dust powdered iron sulphate over the surface.

Question. What would you do with a horse that has lampers, and what is the cause of the same? A. Lampers is to be regarded frequently merely as a symptom of disease rather than in itself as a diseased condition. It may be caused by anything that would irritate the mucous membrane of the mouth, changes in the teeth, but more often by disturbance in the stomach and intestines. The only treatment that is advisable is scarifying the mucous membrane over the swoolen parts with a sharp pen knife, being careful not to cut too deep for serious bleeding may follow a deep cut at a certain place.

Question. Are the so-called condition powders, which are offered by dealers, of any real value to the horse when fed? A. I have very little confidence in patent medicines of any kind, especially the average condition powders which we find on the market for stock.

Question. Is it hurtful to water a horse while warm? A. It all depends on how cold the water and how much of it. I think horses never get so hot that a little cold water will injure them. How much they shall have depends on how hot the horse and how cold the water.

Question. Can ringbones or spavins be taken off without firing or blistering or injury to the horse? A. I think not.

Question. What shall I do for a horse that has bone spavin just forming? A. Blister over the spavin with tincture or cantharides, or have him fired by a competent veterinarian.

Question. Will all horses of the same live weight do equally well on the same amount of food? A. Certainly not. Some horses require much more food for the same amount of work than others of similar weight.

Question. Is it economy to cook the food for horses? A. I think not, except it be for an old family pet with poor teeth.

Question. How often shall I feed my horse that is a hard worker? A. Three times a day or five times a day if it can be done.

Question. How should horses for farm work be fed? A. Water first, always. Grain and hay next and together. Only so much hay as a horse will clean up in a reasonable time. If the hay is dusty it should be sprinkled. A reasonable amount of grain, according to the size of the horse and the amount of work, should be given.

Question. Is there any harm in feeding horses a quantity of salt to last them a week? A. No especial harm, but a decidedly better way is to keep it before them all the time.

Question. What shall I do for a horse that has scratches, or grease heel of three years' standing? A. Take him to a veterinarian.

Question. Would you consider wheat good to feed a mare with

foal? A. A small amount of wheat crushed, or coarsely ground, may be a valuable addition to her diet.

Question. What is the best bit for a hard-mouthed horse? A. Frequently a very easy bit and uniformly kind treatment will work wonders for a puller. There are quite a number of severe bits which commend themselves for certain horses, such as the Jay Eye See bit, Success, Imperial and Rockwell; anything but the double jointed, twisted wire bit.

Question. What shall I do to get the lice off a colt? A. In cold weather use pyrethreum or Persian insect powder along the neck and back. Repeat every six days till the lice disappear. In warm weather us kerosene emulsion made in the following proportions, more or less as needed: One gallon of water, one pound laundry soap; boil till dissolved. Add, while hot and away from the fire, two gallons kerosene. For use, take one pint of this emulsion for three gallons of cold water. Wash colt thoroughly with this diluted mixture; or preferably gasoline.

Question. What should be done in a case of sore eyes in a horse appearing at different intervals; one sore one week, and heal, and then the other sore? A. What is the cause? A. I cannot tell. This may be either periodical ophthalmia (moon blindness) or a symptom of influenza. The former is probably incurable and usually results in blindness. The latter usually disappears under treatment.

Question. My colts rub their tails. What causes it? A. Either lice at the root of the tail or pin worms in the rectum. For the former, use kerosene emulsion. If due to the latter, give injection of quassia tea, followed by a dose of raw linseed oil; enough to physic.

Question. Will a horse that has been paralyzed on one side ever be able to work again? A. He may or he may not. It depends on the location and extent of the disease.

Question. What would you do for collar galls? A. Relieve from work if possible. Otherwise remove pressure from sore place by adjusting sweat pad or collar. Dust over the raw surface the following mixture: Boracic acid, iodiform and tannic acid; equal part by weight.

Question. Do you approve of allowing colts the first winter to have oats to eat at their will, or feed what they will eat up clean three times a day? A. I think the latter is the proper way to feed any horse.

Question. How would you treat a horse that has mange? A. Scrub the diseased surface with brush, soap and warm, soft water until all the scaly material is removed. Then use a lotion made in the following proportions: Water, one quart; carbolic acid, (95 per cent) one ounce; acetic acid (glacial), two ounces. Apply every third day until cured, or skin becomes very sore. In the latter case stop treatment for a few days, then begin again.

Question. What is the cause of lameness in the forelegs of a horse confined in the stable in the winter time? A. It may be due to any one of several causes, more frequently, perhaps, to contracted hoof caused by horses standing on dry floor, either shod with high toe and heel calks or barefoot, and the wall of the hoof allowed to grow down till frog does

not touch the floor. Remove the shoes or trim down the hoof until the frog rests upon the floor; that is, the frog surface must be below the level of the sole. At the same time use some oil or hoof ointment to soften the hoof.

Question. What makes horses that are well fed gnaw feed-boxes, mangers and everything around them? Is there any help for it? A. They either get too much grain or too little coarse food, and sometimes horses gnaw the mangers and feed-boxes because they do not get sufficient exercise and have little better to do. Tack sheep skin over the manger with wool on, or cover with tin.

Question. Will a horse do well on good wheat and oat straw, half and half? How much grain should he have with it to balance it? How much at a meal? The grains are oats or corn. Which is best? A. I do not like wheat straw for horses, except it be cut quite green. Oat straw, if it be clean and bright, is much better. About the same proportion as with prairie hay, more or less, in quantity, according to the size of the horse and kind of work. Both are good. Clean, heavy oats is probably the best single grain for horses, although I think corn is frequently underrated by feeders.

Question. A horse has been troubled for one year with white, round worms about two inches long. Have tried several remedies. Can you give me a sure one? A. First, give him a pint and a half to a quart of raw linseed oil. Allow very little or no hay during the period of treatment. Give daily, two ounces turpentine in one pint raw linseed oil for four days. Close treatment, with a rather severe physic, as for example, the first dose of linseed oil, unless very free action has already been established by the continued doses of linseed oil, in which case the cleansing dose is unnecessary. The essential point in this treatment is, first, to thoroughly empty the bowels and then keep them from filling up by allowing little or no hay; and, lastly, the continued treatment by turpentine. The only satisfactory way to treat these parisites is by continued treatment. One or two doses of any single medicine is not usually satisfactory.

CHAPTER XLII.

ANSWERED BY DR. S. D. BRIMHALL, ASSISTANT STATE VETERINARIAN, MINNEPOLIS, MINN.

Question. Have a horse that is bothered with contracted hoof? A. Contraction of the foot (hoof bound) is the more or less marked contraction of the posterior parts of the foot. There are two kinds, true and false. In true contraction, the quarters, as well as the heels, are high and narrow—often called mule foot. As a consequence of the compression caused by the contracted heels and quarters, the sole becomes more concave and the frog, in a great measure, becomes shrunken. The causes are numerous, but all can be traced to one of two factors—drying of the horn, or some interference with its normal elasticity.

Treatment: Keep the heels and quarters pared down so that there will be a good frog pressure at all times, and keep the hoof moist; also prevent drying out by the use of vaseline. If the contraction is very great, and the horse is lame, it would be well to thin the wall at heels and quarters to allow them to expand more readily.

Question. What treatment would you recommend for a horse that has sweeney in both shoulders slightly, caused by too large a collar, more than a year ago? A. Sweeney is often due to prolonged lameness of the feet. If the horse is lame try to determine the cause. A slight shrinking of the shoulder muscles seldom affects the usefulness of the animal. Medical treatment is rarely satisfactory in cases of so long standing.

Question. How would you treat a ringbone that has been on about six months, swollen in the first joint of the hind foot? A. Blister thoroughly by rubbing in the following ointment every ten days: Tie the horse so that he cannot get his mouth to the blister: Red iodide of mercury, one dram; pulverized cantharis, one drachm; vaseline, six drachms.

Question. What would you do for a mare that has heaves? A. Feed sparingly of coarse feed and be sure that all feed is clean, sweet and free from dust. Moistening the feed with lime water is often of advantage. Never feed hay which has not been perfectly cured. Badly cured hay will irritate the stomach and the nerve which supplies the lungs and stomach, thus producing a cough, which, if continued, will cause heaves.

Question. Describe glanders. A. Glanders and farcy are one and the same disease. The term farcy has been applied to the disease when th principle manifestation is an outbreak of the sores on the skin of the

animal, but internal lesions always exist and can be seen on post mortem. Glanders is a contagious constitutional disease of the horse, ass and mule, and is readily communicable to man, sheep, goats, the dog, the cat, the rabbit and guinea pig. It runs a variable course, lasting from a few weeks to several years. It is subject to various complications of the lymphatic glands, of the lungs, of the testicles, of the internal organs and the subcutaneous connective tissues.

The essential symptoms are the enlarged lymphatic glands and cords, and ulcers on mucous membrane of nose. Farcy buds or ulcers in the skin, and the characteristic discharge is from nose and sores. A horse which has a chronic discharge from the nose should always be looked upon with suspicion. This suspicion can be removed or confirmed by the mallein test.

CHAPTER XLIII.

ANSWERED BY DR R. M. DODDS, MANKATO, MINN.

Question. I have a mare that has a running sore on lower jaw, caused by ulcerated tooth, what can I do for it? A. Have the ulcerated tooth extracted by a competent man. He may have to trephine the jaw to obliterate the fistula.

Question. What is best to do for a horse whose shoulder has become puffed and swollen, and has been opened; it still remains swollen, but no discharge. A. Open it up thoroughly by a free incision of knife to bottom of tumor, and dress daily with a saturated solution of chlorid of zinc. If it is necessary to work the animal cut out a portion of sweat pad over tumor.

Question. What is the correct treatment for azoturia? A. As prevention is always better than cure, advice should be given in that direction. Horses regularly worked and fed are never the subjects of this malady. If you have no work for your horses, turn them out for exercise, always cutting down their feed. Dr. Reynolds, Experimental Farm, St. Anthony Park, has prepared an excellent treatise on this disease, which it will be well for you to send to him for. You will find it the most practical exposition of the subject, both cause and treatment, in the English language.

Question. How much hay does a 1,000-pound horse require? A. It will depend on circumstances entirely—the kind of horse and the duty required of him.

Question. What is the best liniment for barb wire cuts? A. Raw linseed oil, one pint; carbolic acid, one ounce. Keep the wounds saturated all the time with this. Will do in all kinds of conditions and weather.

Question. I have a colt, coming two years old, that has puffs on hock joints, both in front and on each side. Both hind legs are alike, is not lame, colt is quite large of its age. What will be best to do for it, or will it come out all right? A. Considering that the colt is a growthy fellow it will be better to let it alone, as it is most likely dropsical and will probaby disappear with age and careful usage.

Question. I have a horse that has a lump, or soft, puffy enlargement, inside of the fore pastern joint. What can I do to get rid of it? A. What you describe as a lump, or soft, puffy enlargement, inside the pastern joint, is probably nothing but a so-called wind gall in the sheath of the flexor tendon. It is not apt to cause lameness, and since it is

small it is best left alone. May be your blacksmith has pared away too much of the quarters, or has allowed the toes to grow too long; or else you have allowed the flexor tendons to become too much strained by too fast or too long continued drives.

Question. What constitutes a bog spavin? I have a mare that has an enlargement on hock joint that my neighbors say is bog spavin. She is not lame. I would like to take the bunch off if possible. A. A bog spavin, that is, an enlargement of the capsular ligament of the hock joint, very seldom causes any lameness, and, therefore may as well be left alone; at any rate unless the causes, usually defective mechanical proportions in the hock joint and an unequal distribution of weight and concussion, can be removed. Hence, no treatment will have any lasting effect. A temporary reduction may be effected by iodine preparations—tincture of iodine, for instance—if applied once a day for several months in succession.

Question. I have a horse that has been lame in his left fore foot for over a year. I have blistered his shoulder for sweeney, but it did no good. He is as lame as ever, although I have treated him for several months. What had I better do? A. If you will kindly inform me where the lameness is situated, and give a lucid description of its characteristic features, I may be able to answer your question. Meanwhile give your horse absolute rest, or else consult a veterinarian personally.

Question. I have a valuable horse that has a running sore from his neck. He was bit by a stallion about one year ago and it has never healed up. What can I do? A. In the wound you describe, the bottom is probably lower than the opening, so that the pus that is formed cannot be discharged. The wound, therefore, is equivalent to what is usually called a fistula. The facts in the case must be first ascertained by careful probing. If this reveals that the bottom is lower, either the wound must be enlarged or a lower opening must be made. If this is done, and the wound is kept clean and dressed twice a day with some antiseptic, say—according to circumstances and to the condition of the wound—either with a three or five per cent solution of carbolic acid, or with iodiform, a healing will be effected. It is much cheaper in all cases to employ a good veterinarian, and pay him for his services, than to lose a good horse.

Question. What would you do with a sweeney on a three-year old colt? A. If the colt is lame, have the foot examined and see if the trouble is not there. If it is, the shoulder always shrinks from sympathy. If it should be in shoulder, a rowel will be in order, left in about two weeks.

Question. Can splints on horses be cured? If so, what is the cure? A. If your horse is not lame from the splints, let them alone. They will disappear by a natural process in time. If lame and near the knee joint it will be well to apply a sharp, absorbing blister, iodine of potassium, 4 drachms; iodine, 4 scruples; mercurial ointment, 2 ounces. Mix and apply on splints once a week for three applications.

Question. What is the best remedy for scratches? A. Take a clean rub rag and clean out heels well and apply oxide of zinc ointment. Never wash, or as seldom as possible.

Question. What about capped elbow or shoe-boil? A. Open freely, getting perfect drainage, wash out thoroughly, using a solution of Pot. Permanganese; one drachm to one pint of water, once daily; apply cantharides blister, over the whole mass once weekly. This is the simplest treatment. Of course in old standing cases, a surgical operation is necessary, when the services of a veterinary is in order.

Question. Can swelling of the legs be cured? A. It would depend on the cause. For ordinary swelled legs the following remedy will be found beneficial: potassium acetate, tinct. digitalas six ounces; equal parts; add water sufficient to make twelve ounces. Dose, one ounce every four hours.

Question. Do wind-galls injure a horse and can they be removed? A. If windgalls do not cause lameness, let them alone.

Question. How will the horse act with shoulder lameness? A. This is quite a broad question, as there are three forms of shoulder lameness, all of which may exist independently of each other. The gait of shoulder lameness, is indicative of the seat of injury. The horse brings the leg forward with a sort of half circle sweep, and in some cases the toe is dragged along the ground. In well marked cases, in bringing the limbs forcibly forward, the pain will be so great as to raise the front of the animal off the ground.

Hot fomentations with blankets wrung out of hot water and placed over the shoulders, with dry blankets over is indicated and should be kept up until relief is obtained.

Question. What is the best means of removing warts? A. Keep wart saturated with diluted acetic acid.

Question. What can be done for grease heel? A. As the trouble arises within the body, connected with digestion, torpidity of the liver, etc., we must remove the cause. Give seven drachms of barbedoes aloes and one drachm of ginger, in a bolus at once. This acts on the blood before acting on the bowels. Give also a tablespoonful of soda in every feed, for about two weeks; then give the following: tr. ferri chlor, (chloride of iron), liq-potas-arsen, (Fowler's solution), 12 ounces; mix together and give one ounce of this mixture in one pint of water three times a day. For local treatment, poultice with flaxseed meal in which a tablespoonful of powdered charcoal is mixed. Keep up the poultices for a couple of weeks. We prefer dry treatment after poulticing. Never wash, but always rub dry with a towel and keep the cracks dusted with powdered alum and golden seal, (hydrastis).

Question. What is the best remedy for scratches? A. Poultice the affected part with flaxseed meal, in which a tablespoonful of powdered charcoal is mixed. Renew this poultice every day for one week; then apply oxide of zinc ointment for another week, after which good hand rubbing will do the finishing, unless there is constitutional trouble, in which case use the same treatment as for grease heel.

Question. What treatment will relieve the lameness of ring bone? A. Keep the toe pared short; shoe with high heel corks and use the following counter-irritant: oil of peppermint one ounce; tincture of belladonna and tinct iodine, each three and a half ounces; mix and apply once or twice a day. The most certain treatment, is firing or neurotomy.

Question. What will relieve the lameness of bone spavin? A. The treatment for ring bone applies to this case; viz.: counter-irritants, firing and sciatic neurotomy, are indicated.

Question. What can I do for quarter-crack? A. Proper balancing of the foot with a bar shoe, cutting out a V-shape of horn from each side of the crack, so there will be no working of the part above or at the coronet. Blister above the crack once a week, for three week and afterwards treat foot as for hoof-bound.

Question. What can I do for toe crack? A. Same as for quarter crack.

Question. What is best for a "prick" of the sole? A. In veterinary science this designation has been given to a punctured wound, often with laceration, sometimes with contusions, either of the sole or frog, produced by sharp or cutting bodies; more commonly nails, upon which the animal steps. The form of these bodies, the direction they take, the force with which they penetrate and the parts they enter, give rise to various lesions of varying gravity, as they are older or as the injured part enjoys a greater sensibility. In all cases, the first indication is to get a natural repair. Open up the wound with hoof knife to bottom; giving always good drainage, then absolute rest, warm poultices of flaxseed meal and a little powdered charcoal, for a few days; then cold water baths, in which is added a little acetate of lead or even common salt. By this treatment, the progress of the inflammation is checked and very often deep and serious wounds cured without injury.

Question. What can be done for corns in the horse's feet? A. As for the curative treatment of corns, there are four indications to be fulfilled: 1st, remove the cause; 2nd, treat the injury it has produced; 3rd, relieve the pressure upon the diseased region; 4th, prevent the return of the injury. Cold baths to the feet are very useful in all cases of corns and a bar shoe is a necessity.

Question. What is hoof-bound feet and the cure? A. Sometimes "hoof-bound" is only a simple deformity without lameness and without serious results. But in most cases it constitutes a very serious affection which renders many horses useless and practically without value. Hoof-bound is commonly associated with corns, navicular disease, punctured wounds, thrush, side bones, any and all articular diseases and heredity.

Question. What is to be done with hard, dry hoofs? A. Avoid all known causes likely to give rise to this morbid condition of the frog; pare the foot, cutting away all the ragged parts that would cover secretions that collect; exposing and thoroughly cleansing first the diseased parts; then poultice a few times with flaxseed meal; then dress with drying powders, such as sub-acetate of lead; powdered alum and tannin,

equal parts. It is certain that in many cases, that proper shoeing is of great advantage.

Question. What is good to remove stomach worms from the horse? A. Give the following on an empty stomach; raw linseed oil, eight ounces; oil of turpentine, two tablespoonfuls; keep well mixed and administer as a drench. It may be well to repeat it in a week or two. Give as a tonic; the following mixture: sulphate of iron, ten drachms; gentian, two ounces; willow charcoal, one ounce; Jamaica ginger, one ounce. Mix into fifteen powders and give one powder on the tongue before meals.

APPENDIX.

FOR YOUNG COLTS.

NOTE.—The illustrations used here are of "Betsy Tell," b. f., foaled April 20, 1902; sired by Brauntel, by the world renowned Axtel (sold as a three-year-old for $105,000). Betsy's kindergarten work of instruction began with the first hour and day of her life, and continued with short, frequently repeated lessons for one week, and after, every two or three days up to thirty days old, when turned to pasture. Hundreds of St. Paul people of all classes can testify to this little equine's remarkable advancement and good behavior. Ladies and children were delighted to entertain this young member of fashionable society on St. Anthony Hill.

The usefulness, comfort, safety and consequent value of all our horses in the varied duties of their mature life—like that of our children for trades, business and useful members of society during their maturity—depends so much on their early education and training for specific work to be performed, that kindergarten schools for our "little tots" all over our land is now recognized as next to indispensable, that work of a similar character with the little colts—for their future required duties must be considered of but little less value, when we reflect that every act, duty or labor that they perform must first be taught so thoroughly that the animal can be relied on for a certainty of action under all circumstances.

NATURAL LAWS OF ANIMAL LIFE.

One of the most important lessons for the educator of animals is to thoroughly understand the natural laws of animal life: to know for himself perfectly what is to be done and just how to do it. He must understand the natural laws governing horses in their natural actions—in their uneducated state. He should understand that the perpendicular center of the horse's body is his center of action—pivotal point; whatever happens or attaches to the front portion of the animal induces backward movements and that to the rear part just as naturally induces forward movements—just opposite direction.

Whatever movements are required by the educator of the young colt must be in conformity with these unalterable natural laws for proper results If a backward movement is desired the work of the tutor should be made at the front portion of the colt's body, but for a forward action then the work must be transferred to the rear part of the body. Care must always be exercised that these alternate movements are not required in rapid succession from one end of the body to the other, as it is too apt to confuse the young animal pupil before it thoroughly understands them.

Without a still further explanation of this natural law the reader may not fully comprehend it; but when he is reminded of that which he already knows full well he will no doubt realize its complete mean-

ing. Every horseman of experience and observation knows that whenever a horse gets his front foot over an obstruction of any kind and feels the pressure on the foot or leg—even if it is not six inches above ground—he goes backwards until he frees himself, even when he could step over the obstruction by a forward movement; and when the hind foot is fast he goes forward.

It is also well known that when the halter is put upon the colt's head for the first time and the "breaker" begins to pull upon the halter that the colt will invariably go backwards to get out of the difficulty, yet how many colt handlers ever stopped to consider for one moment why the colt goes in that direction in preference to any other? And still everybody knows this to be the fact. Every colt "breaker" realizes in the beginning that it is a question of man power

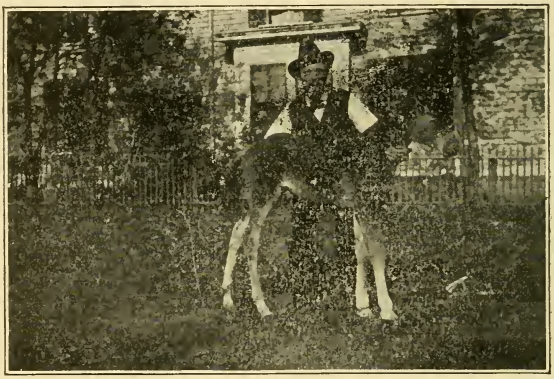


FIG. 1 represents Betsy, at three days old, and the manner of catching the colt at both ends at the same time for success.

at one end of the halter and horse power at the other. If there is more horse power than human strength, too often a confirmed halter puller follows. If the halter is broken in the struggle a like result is quite evident.

To still further illustrate this great natural law, just take up the front foot of the horse and carry it forward to the straining point and the horse invariably goes backwards. Now carry the same foot back under the body back of its center and a forward movement is the result. Then take up a hind foot and carry it backwards and the horse moves forward for relief; but carry it under the body forwards of the center and the horse again attempts a backward action to get away from its effect. Whenever a horse is seen to try the passage of a narrow doorway, gate or between two posts, which makes pressure on both his sides, if he gets more than half way

through it is next to impossible to back him out. He seems determined to go on through if his hips are broken down in the attempt.

An illustration of leading the dog for the first time is the same as that of the colt; he pulls back just the same, and if the leader is in a hurry he will go, dragging the dog; but don't every small boy and most old men know the effect and direction the dog will take with a tin can tied to his tail and turned loose? Now should not these well known facts in relation to the natural laws make an impression on all horsemen strong enough that from this time forward they will work in conformity with them instead of everlastingly opposing them for the trouble that can be so easily avoided.

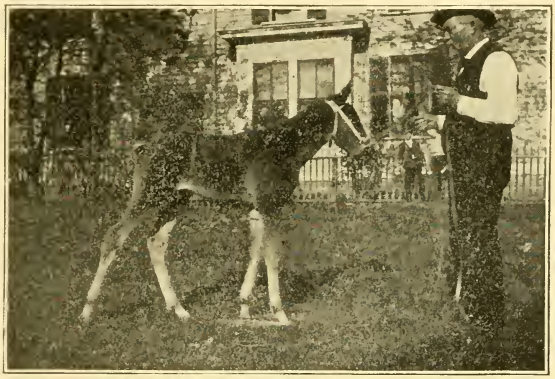


FIG. 2 shows Betsy, at four days old, enjoying her first experience in halter education. Shows she takes kindly to it.

AGE TO BEGIN TRAINING THE COLT.

Bacause it has been the time-honored custom to let the colts run ad libitum until there comes a convenient time, or until they are two or three years old, and then "turn in and break them," does it prove that it is best? The colt must be taken hold of and handled before it can understand what its duties in life work are. Then at what age shall we begin? "Yankee like," the question may be answered by asking if any one likes a hard job in preference to an easy one, a wild colt instead of a gentle one, a nervous, dangerous one to a fearless fellow? These conditions are the results of the differences in handling and the age at which to begin. Sooner or later the necessary time, patience and care must be taken for a practical education, and it is certainly the easiest, surest and best method to begin when we can handle the young colts on equal terms without punishment or fright; show them, rather than force them, to do that which they do not understand by beginning at the age of infancy, say one hour

or one day old, by taking hold of them and handling them all over carefully without fright or punishment. The earlier in the colt's life we begin the easier the task, and the longer it is postponed the greater chances or prospects for a hard struggle. The differences of opinion come in here as to just the right age to begin.

HORSE INTELLIGENCE.

Far too many of the human family believe the horse is only a "brute" to be "yanked," kicked and pounded into submission at the pleasure or passion of the "acephalous hossman," who is trying to force his would-be faithful animal servant to perform duties which neither understand the foundation principles of, but both operating against each other and getting farther from the desired "goal" at every turn. It is a case of a man wanting to be a horse trainer not understanding the true principles of horsemanship, ignoring the natural laws

FIG. 3 indicates clearly just how Betsy, at six days old, learned to back in compliance with the great natural law, so that in a few days she could be induced to keep backing for half a block by word alone.

of animal life, and the horse, not knowing what is wanted; a horse and man fight generally results, with no advantage to the "breaker" and certainly a damage to the horse.

HORSE'S WONDERFUL MEMORY.

If we are not willing to concede that the horse is endowed with a fair degree of intelligence we are in duty bound to respect his very retentive memory, as he never forgets anything—good or bad. Most people are ready to charge the horse with readily remembering all the bad tricks he ever learned, yet very few are ready to acknowledge the careful recollections of the valuable instructions of early life. If the horse only remembers the bad habits learned and forgets the

good, it becomes the more important that he never, never, never have the advantages of acquiring a single bad trick.

WHEN AND HOW TO BEGIN WITH THE COLT.

When the young foal is but an hour or one day old is the very best time—without question—to demonstrate the truth of another natural law in animal life, i. e., the stronger rules the weaker; but in this case it must be with kindness and good things to eat—by catching the young, timid thing at both ends and holding it.

This must be done in a very firm but quiet manner by placing one hand under the neck of the colt and the other under the hams, when that first natural law can be easily demonstrated. If the pressure is made greatest at the hams or rear end, the colt will move forwards; then if the pressure is made at the chest or front end of the body, with relief at the hams, the colt will go backwards. Never catch the colt around the neck only and hold on. If this is done, and persisted in, the colt will go backwards in a hurry, and both will go down to-

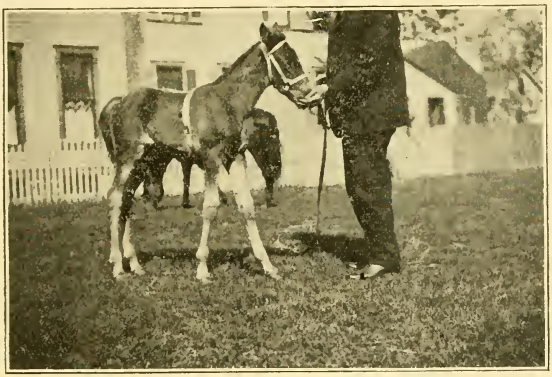


FIG. 4 gives the reader an idea of how Betsy, at seven days old, likes sugar, and, although her newly fitted surcingle and crupper were a great annoyance to her very sensitive nerves, she soon became reconciled.

gether in a heap. And it is not always safe to rely on a tail hold even at this early age.

HANDLE THE COLT ALL OVER.

Sooner or later we must take hold of the colt and handle it. Will we wait until it is the stronger and we have to rely on means of punishment to a greater or less degree, or will we undertake this work at an age that the young thing can be handled on equal terms without pain or struggle?

After the colt has been caught and held as above described until it becomes reconciled to the fact that man is the stronger of the two

—and it will never forget this unless a mistake is made and it gets away —then begin making it acquainted with hand touches over every part of its body, being very careful about its ears, back of the fore legs and at the flank, where it will be found very sensitive. After this is done then take up the feet and legs on the side next to you and handle them very carefully; then get on the other side and handle all over again from that standpoint. A horse may be very familiar with his handler from the "near," or left side (the side he is usually approached from), and yet he may be frightened from approach on the "off," or right side. The colt should be familiar with people coming to it from every quarter without fright or suspicion that it is to be harmed in the least by anything.

SECURE COLT'S ENTIRE CONFIDENCE.

The great secret in handling men or animals intelligently is in getting and maintaining their confidence. When the young colt has been caught

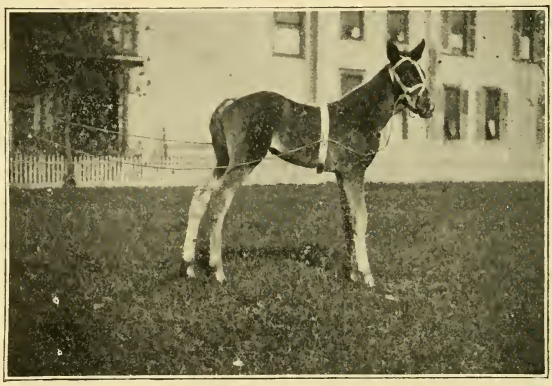


FIG. 5 pictures Betsy, at eight days of age, with her surcingle, crupper and check-rein, being driven with lines (no bit in mouth), and as contented as an old, experienced pupil or graduate.

and handled all over for the first time, and the demonstration of the law that the stronger rule the weaker is manifest by the inability of the colt to get away (which should never be permitted), makes such a lasting impression that it will never forget it until some mistake is made. But if by a mistake it succeeds in making its escape, it will certainly not forget this either, but try it again unless its confidence is so thoroughly gained that it feels as much at home with its tutor as with its mother, which is possible to such a degree that it will be as well satisfied with one as the other.

The medium of the stomach, it is said, is the most direct road to a man's affections, and it is none the less true with the young colt. As

sugar is a little sweeter than the dam's milk, and is generally relished with astonishing effect when given in small quantities from the hand of the tutor, the young colt becomes the more confident, as it has been caught and held by a superior force; it has not been hurt, but caressed, fondled, petted and given ever a little sweeter food than its dam was able to provide. Then what has the little thing to be afraid of? If it is treated in this manner a few days it will as readily follow its tutor as its dam, and enjoy being handled in any way desired which does not frighten or give it pain.

Granulated sugar, in its early life, must be given from the palm of the hand, which, by passing the hand across the colt's lips with some pressure and taken away, will leave a little sugar between the lips and the colt's tongue will soon come in contact with it, and the job is practically done, as the colt becomes more and more satisfied with the situation, and soon manifests a disposition by its actions that it would like

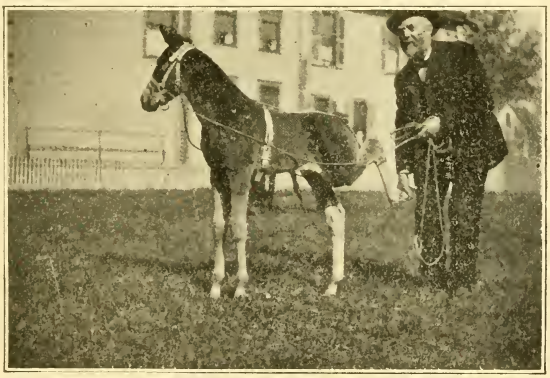


FIG. 6 illustrates what an early beginning, as in the case of Betsy at nine days old, does for the young colt to make it kind and indifferent to being handled in any manner. See how much more she is attracted to an object in the distance than she is to having her foot held up.

more sugar, in which it should not be disappointed, but given more, little by little, until its confidence is fully obtained.

COLTS ARE NATURALLY TIMID.

The treatment our horses have had from time immemorial and the experiences of brutal treatment and torture their ancestors have suffered has no doubt had much to do with the innate fear exhibited in the highly organized nervous system of many of our horses, and this influence is so strongly manifest in the progeny that we are compelled to be more careful in all we do with the young colts to gain their confidence, by kind treatment and careful handling, to satisfy them that we are their

friends instead of enemies. This natural timidity can only be overcome by kind, firm treatment, relished morsels for the stomach and an assuring manner that they need not fear anything from those who have charge of their care and keeping.

EDUCATING THE COLT TO THE HALTER.

This is about the simpliest, easiest and most satisfactory demonstration of the natural laws of anything we have to do in their education. If the colt has been treated in the manner heretofore suggested, there need be no trouble in getting the halter on the colt's head, but I here

FIG. 7 outlines the method of laying Betsy down for the first time at ten days of age. She did not take kindly to this at first, but in a few lessons she became as familiar with her humble attitude as any other. Note that the left foot is held in the hand while the head is turned to the right, which naturally throws the weight of the colt to the teacher, and he can lay the little, young thing down as gently as putting a baby in its crib.

beg of the handler not to pull at the colt's head to get it to follow, as in this it will certainly be on the wrong line of operation. But as soon as the halter is nicely fitted to the colt's head, a small rope—the size of a light clothes line—about ten feet or more long, with a slip noose or ring in one end, should be gently placed over the colt's back just in front of the hips, with the noose or ring on the underside of the body, so that when the other end of the rope is run through the noose the

rope can be closely drawn down around the flanks; then pass the rope between the fore legs under the body up under the nose band of the halter, and then by taking hold of the halter strap in one hand and this light rope with the other, the halter education of the colt may begin —and not before—by first feeling of the colt's head through the medium of the halter strap by gentle tension and then relieving, a little more tension and relief. But above all, don't hurry or go at it in a vigorous manner, but give the colt a chance to realize that the new situation is not a pulling match in opposition to the natural law governing such procedure generally. After feeling of the colt's head with the halter strap a number of times to let it know that its head is not rigidly fast, but in a trap that it must not try to get out of, pulling a little harder each time until it decides to go back and try to get away in that

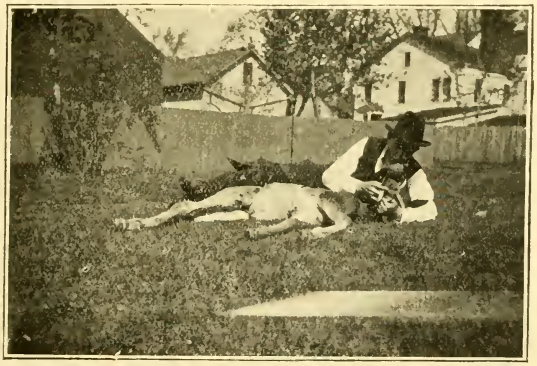


FIG. 8 is an example of Betsy, at eleven days of age, and her instructor lounging on the lawn together, entertaining one another Betsy has the appearance of being sleepy instead of frightened.

direction, when a sudden and emphatic action is to be made through the medium of the rope by a sharp pull, which will immediately change the intention and action of the colt to a forward movement—the one desired—when the colt should be set at ease regarding the situation by a little sugar and caresses Repeat this operation over and over again until the colt understands that when pressure is made on the top of the head with the halter, and a backward movement is made, that it is going into a more positive pressure at the other end of the body, which naturally induces a change of programme and a move in the other direction without a fight, squabble or getting mad.

After the colt fully understands the legitimate use of the halter in leading is a very good time to teach it to back—a very important and necessary duty in its after life of usefulness—which is easily accomplished by complying with the natural law again—by pressing the extended fin

gers of one hand between the point of the shoulder and the breast bone and using the other hand at the halter strap to simply keep the colt straight in line, to back in any desired direction. Don't try to force the colt backwards by "yanking" at the halter or bit, but simply press in this sensitive chest cavity with the fingers and the colt will naturally go backwards, provided there is nothing of an obstruction behind it. When this pressure has been made at the front and the colt has moved backwards (if it is only one step) it should be rewarded for this action; then try it again. About the third time this pressure has been made is a good time to associate the word back! with the pressure, and the reader will be surprised to see how soon the colt will comprehend what is wanted, and how willingly the young thing complies with our every wish as soon as it understands what is wanted.

FIG. 9 exemplifies how Betsy, at twelve days of age, became so well acquainted with the umbrella and other objects while lying on the grass that she preferred to eat the latter instead of getting frightened at the umbrella. See how contented she is.

DRIVING THE YOUNG COLT WITH LINES.

Just as soon as the colt fully understands the backing movement thoroughly is a very opportune time to begin driving with lines, and to do this successfully a surcingle (crupper and check may be well) nicely adjusted is required. The surcingle must be provided with loops or rings on each side, placed below the center line of the body and the lines passed through these and secured to the rings of the halter (never use a bit in the mouth of the very young colt if it can possibly be helped), and then the lines will draw or pass the hind quarters low down to prevent the colt from turning with its head towards the educator. It is very important to keep the reins low in turning to make the guiding process easy The tutor can walk very close to the colt's heels in the beginning, so as to encourage it in its forward movement with a

little pressure on the rump with one hand while the directing or guiding is done with the other hand. After a little, as the colt becomes accustomed to being driven, then it can be touched up with the line for a start forward, guiding to the right and left, but stopping often to assure the young thing that it is doing all right by caresses and a little sugar.

EDUCATING THE COLT TO STOP.

In driving the colt with lines, as soon as it will start off promptly at the word for forward movements, or by a slight touch at the hams with the lines and can be guided to the right and left without difficulty is the proper time to educate it to stop at the word whoa! together with a sudden and positive pull on the lines; then, after waiting a minute or two, start on as before, and after going until everything appears

FIG. 10 is a clear case of the contentment of the dam in the distance grazing, while Betsy, thirteen days old, is sleeping, with her teacher's head pillowed on her body, with one hind foot on his hip.

all right, the stopping can be ordered and carried out in the same way, repeating at longer or shorter intervals, until the colt stops at the word whoa! as promptly as any horse with years of experience.

Whenever these stops are made the colt should be given special attention, by caresses and a little sugar, to satisfy it that notwithstanding it has been "snubbed" up suddenly, it is still treated kindly. The colt must not on any account become confused or frightened. Time, patience, compliance with the natural law, sweet morsels of food fed from the hand, kindness and firmness will make the work easy, successful and satisfactory. Please don't forget any of this.

LAYING THE YOUNG COLT DOWN.

This matter of laying the colt down is considered by many as wholly unnecessary, and by some a disadvantage. But this will be a subject for each one to decide for himself after the advantages are set forth.

To lay the young colt down is a very easy matter, when rightly done. Say you stand on the near or left side of the colt with the halter strap drawn from the right side of the colt's head and across the back of the colt. Now take up the left front foot of the colt with one hand by a firm grasp and with the other pull the colt's head by the halter strap close to its right side, which will throw the weight of the colt towards the operator, and at an early age it can be laid down about as easily and carefully as a mother would put her baby in its crib or cradle. As soon as the colt is down and it makes the least effort to rise, its head should be pulled up closely to its side, back towards the flank which makes it impossible for it to get up if kept in this position. As soon as it has finished its struggle to gain its feet and failed it should be given an easy position in prostrate form, and, as soon as it takes

FIG. 11 portrays Betsy, at thirty days of life, standing in front of the Acme stables, Selby avenue, hitched to shafts (with pieces of rear end to prevent backward movements voluntarily), but she seems to pay more attention to the little girl standing by the Indian tobacco sign than the electric street cars running at full speed.

kindly to this, it should be caressed, handled and given a little sugar; thus given to understand that it is not to be hurt, but that it must stay in whatever position it is placed in comfort. But at each effort to get up, the head must be pulled to the side and well back towards the flank, which will soon demonstrate to the colt (if the tutor has not been careless) that it is in comparatively a helpless condition and still treated kindly, which soon makes the work of handling or doing anything about it easy, and if no mistakes are made it is astonishing how soon it realizes its helpless condition, and is a perfectly willing subject to whatever is desired.

The main object in laying the colt down is to demonstrate to it that the tutor is stronger than it, and that in its prostrate condition it can-

not get away from objects which it would struggle to accomplish if upon its feet.

As soon as the colt is satisfied with its humble position is a good time to bring the umbrella, robe, tin pans or other objects of fright so that it can become acquainted with them by examination with the nose, the touch on all parts of the body, noise, etc., but all this must be done with the utmost caution to avoid frightening or hurting the colt. Every movement must be made quietly, carefully and never quickly.

The colt must learn everything from experience, much as we do, and if it is in a comparatively helpless condition it will learn much more rapidly what is desired than if it is on its feet and can struggle more or less with some show of escape. After the colt has examined

FIG 12. Betsy, at three months old, with an interval of two months since seeing her instructor. It is plain to be seen that she has not forgotten her former handling nor lost confidence in her teacher.

the objects that are brought to it, has smelled, touched with its nose (its fingers), seen, heard the sounds and felt touches of it all over its body while down, it has nothing to fear when up on its feet, and consequently does not try to get away from what would otherwise be the means of spoiling the colt.

When it once understands that these things are harmless, it cares nothing for them. Once well learned nothing further is to be feared. But, after mistakes have been made, oh, how different! Care, perseverance and patience may win, but the chances are of too great a risk to warrant any other course than the very best from every consideration. We must ever recollect that the colt never, never forgets anything, let it be for good or evil, therefore we should avoid anything and everything that can in any way contribute to the dangerous side of the colt's education. The great value in laying it down is to have

absolute control without a possible chance of the colt getting away from objects of fright before it is well acquainted with them.

TEACH THE COLT USEFUL LESSONS ONLY.

Because the young colt is so susceptible to training is no reason that it should be taught a lot of things that are of no practical use; or, because it is bright and full of play, that it must be frightened to see it run, teach it tricks or allow it to become mischievous, and bite, rear, kick or anything else that may seen "cute" while it is very young; but these very things later on may become a great annoyance and very hard to overcome.

The "Cosset" colt is generally looked upon as a worthless animal, but this is true only on the basis that the "Cosset" has always been allowed to have its own way and it pleases to be into more or less mischief, lawless or "sulky." From this fact alone the colt should be taught useful lessons, those only that will enable the colt to become a better and more useful animal during mature life. It should be taught to be handled from every point of approach without resistance. Teach it the importance of that greatest word in horsemanship, whoa—meaning stop and stand still until commanded to move. Teach it to back at the word, start whenever commanded to move forward, etc., etc. It should be strongly impressed that its tutor is its protector under all circumstances, and whenever any object of fright is presented it must be encouraged to march up to it or the object brought to the colt and an opportunity given for an examination of the apparent frightful thing, with every confidence that it will be protected from all harm. Whenever the colt associates with the things of fright more or less punishment, then the two can never be completely separated. When the object is seen the punishment is practically felt, and the animal is very sure to act in anything but a satisfactory manner.

A CHOICE VOCABULARY FOR THE COLT.

While we all recognize that the horse is mute (cannot talk) it must not be forgotten that his sight and hearing are remarkably good, generally. We must remember—and never forget for one moment—that words used in association with actions will very soon become fixtures with the horse and can be relied on without other means. For instance, when the young horse is asked to move forward by a "chirrup" or the word "start," and he is touched at the rear end of the body at the same time, he promptly moves ahead, and if this is repeated a number of times he needs only to be told to "start" and he obeys. A vocabulary of ten words, all of which can be taught the horse in ten days, will enable the cool-headed horseman to derive as many distinct movements of the horse by the use of specific words for the purpose only. The reader will naturally say this is a strong statement; so it is and only applies to a level-headed colt and a well behaved horseman with a proper education; not a horseman in the sense of boisterous gesticulation, spur, harsh bit and whip treatment in the usual man-

ner, but one who understands the natural laws governing animal life and the movements of horses generally, their peculiar traits of character, and is in harmonious association with them, one who loves horses and who the horses take kindly to and loves to obey without fear of punishment.

Hundreds of instances can be cited showing the intelligence of horses and their ability to comprehend through the use of words alone the directed duties to be performed, which have been taught and thoroughly understood through practical, demonstrated lessons with words and associated actions in contradistinction to the too generally and apparently too willingly accepted idea that the horse is but a mere brute, without sense or feeling, to be used as the most degraded, menial servant, with only abuse and punishment, to the gratification and sometimes delight of the self-boasted "hossman," who often knows less—devoid of sentiment or sympathy—than the humiliated animal that submits to his inhuman treatment, and under such circumstances it would be only fair, if it were possible, to harness the man-brute and give the humane-horse a chance to demonstrate his higher order of development.

SPECIFIC WORDS FOR DEFINITE ACTIONS.

For the very best results there should be a general adoption of specific words for definite actions all over the land, and whenever this becomes a fixture in horse education by universal adoption, then we can buy, sell and exchange horses with benefit to ourselves and some satisfaction to the horses themselves in many cases. If everybody would use the same vocabulary in the handling of their horses then the horses would understand the meaning of the words used and conduct themselves accordingly without any fear of punishment for failure to understand a command. But just as long as every horseman has a way of his own (and no two alike) what can we expect in the actions of our horses? Is it not plain that a horse may be very valuable in one man's hands and comparatively worthless in that of another, simply because he understands what to do in one case and knows nothing in the other but confusion, fear and punishment And right here is where the troubles ensue in trading horses generally—both parties may be benefited or beaten, or one the gainer and the other worsted

A TEN WORD HORSE VOCABULARY.

After years of study and experiment the writer has adopted the following:

Already.—To let the horse know that a command is about to be given.

Start.—For a forward movement, modified in tone for prompt or deliberate action.

Hurry.—For increased movement in gait, used in modulation or emphasis, as may be required

Faster.—When the gait is to be increased, also with modulation of voice, rapid repetition, emphasis or slight touches of the whip.

Steady.—Is to be used as a governor to maintain the speed attained and satisfy the horse that he is doing just right.

Slacken.—Indicates what is wanted and tone of voice for degree of modification of speed for special character of animal.

Whoa.—Is the most important word in the whole catalogue, and should never be spoken except for an immediate stop to a positive standstill, and the horse should understand that he is to remain stationary until notified that another order is about to be given by Already.

Back.—Is next in importance, and the horse should fully understand just what this command actually means. One driver will use the word "whoa-back," another "backup," and a third says nothing, but pulls on the lines hard enough to split the horse's mouth, and if the horse goes back too rapidly he will apply the whip vigorously at the rear end of the animal, which virtually puts him between two fires—front and rear—confuses or so excites him that it is hard to tell what will happen next.

Right.—Is just as good as "gee" (of our forefathers), and the horse soon comprehends what is wanted through the same single line or otherwise.

Left.—Can take the place of "haw" (of our ancesters), and the line or lines used just as they did or otherwise to have the horse understand.

These words, "haw" and "gee," in connection with the one-line system of the South, demonstrates what can be done in the way of educating horses to comply with commands of these words, "haw" and "gee;" by association of a pull on the line and the word "haw" the horse promptly turns to the left, and by a slight jerk of the line in connection with the word "gee," the horse as readily turns to the right. A good, intelligent line or lead horse will soon acquire a knowledge of what is needed of him so that the driver, who usually rides the left wheel horse of the four, six or eight-horse team, can walk beside the team, behind the wagon or ride and drive by the commands of word alone.

By a careful study of this vocabulary it will be seen that the words are simple, and there is no good reason why this or some better system does not deserve adoption by everybody to save trouble, confusion and misunderstanding of men and horses.

CONFUSION MUST BE AVOIDED.

Whatever is done with horses to the best advantage must be done coollv, deliberately, confidingly and with kindness for best results. Whenever the horse becomes confused and excited he seemingly "loses his head," which is then very liable to lead to dangerous results; but just as long as he and his driver are on peaceable terms and understand each other perfectly, there is comparatively little danger even with the highest order of nervous development. As long as the horse understand that he is not to be hurt, and that directions will come in an intelligent manner he can be relied on, but just as soon as he loses confidence in his driver he seems to take the responsibility of the situation upon himself, and then destruction too generally follows.

The theory practiced by the majority of the (would be) horsemen is to force the animal to do their bidding, whether the horse understands

what it is or not. But neither men nor horses can execute any order well without understanding just how to perform the duty, and this is acquired by cool, deliberate, careful and kind explanation without fear of punishment. Well behaved horses are the results of kind, careful handling, but dangerous horses are made so by fright and fight by those who have undertaken their training. Many of our very best and safest horses under similar treatment can be made dangerous animals in an incredibly short time in the hands of an abusive, inhuman, cruel, horse-breaking crank.

MAKE HORSE TEACHING LESSONS SHORT.

The education of horses, like that of children, should be confined to short lessons of real practical value. It is best to do the work in a short, exact manner in the same way every day. Take up one thing at a time and be sure the colt fully understands that lesson before undertaking another, and it is good practice, as advancement is made, to keep the several lessons in the most useful order and always repeat each in the order taught, when the colt can be depended on to go through the list in the order of advancement without a break. But if the work of education has been done in a haphazard manner, then it is not certain just what can be depended on.

NO SUDDEN MOVEMENTS.

As horses are naturally timid and sensitive, it is important that no sudden movements be made in approaching the colt, as these will tend to make it start and jump away, through which it will soon learn that it can avoid being caught, and thereafter be inclined to move away from instead of towards its tutor, a thing to be very much regretted.

If the handler of the colt will always go to it in a very quiet manner, never seeming to care whether it gets away or not, and never makes a quick movement to catch the colt, but be sure of success when attempted, and always be prepared to catch it at both ends at the same time with one hand under the neck and the other under the hams, then you are sure of success.

NEVER FRIGHTEN THE COLT.

Too many persons, thoughtlessly, will try to make the young colt show off by doing something to startle it—make it run, etc.—which is all wrong if the colt is to be made a safe and reliable animal for the future; or it should at least be deferred until the colt fully understands just what is wanted in many other respects, which cannot be attained until it has had quite an experience in the exhibition business.

USE AND ABUSE OF THE WHIP.

That the whip has a place in legitimate horsemanship there is no question, but there is probably no other one thing in connection with horse education (especially the colt) where the application of the whip is oftener out of place than all others put together. The use of the whip is to

encourage the colt to move forwards promptly when that command is given, but it must not be forgotten that the application of the whip should be at the rear end and always in association with the word start! yet never before the command is given for the forward movement, but so quickly after the word is spoken that the colt readily understands what is wanted. These two (the word and blow) must succeed each other so closely that the colt cannot help feeling that when the word is spoken that the whip is right after it, and to avoid the pain of the whip it acts so promptly that the punishment is avoided, and it learns this, too, so there is no further use of the whip with the ambitious horse; the word is sufficient, and it would be doing a great injustice to use the whip on the horse that is trying to do all that should be required. One sharp cut with the whip is far better than any number of strokes following; in fact, no one should ever be permitted to whip a colt into (what is erroneously termed) submission. This term is a misnomer as applied to colt education and should not be tolerated under any circumstances. Such a thing as a fight between a man and his horse is altogether wrong and no good can come of it; but, on the contrary, bad habits are almost sure to follow, bad feelings engendered that cannot be eradicated, and possibly tricks learned by the horse that the best of handlers cannot overcome.

NEVER WHIP AND JERK AT THE SAME TIME.

Whenever the whip is applied to the rear part of the colt's body the greatest care must be exercised not to suddenly restrain the forward movement by the lines in a jerk at the head, and more especially if a bit is used in the young, sensitive mouth, or great mischief may be done. Great pains must be taken on the part of the trainer whenever the colt is to be suddenly stopped, as, for instance, following the word whoa! that it is never attempted immediately after a stroke of the whip. Whenever the colt is struck with the whip for a forward movement then it should not be punished in the mouth by a "yank" at the bit. The colt is almost certain to feel that it is between two enemies—rear and front—and any one can reason out the natural and logical conclusions. Some desperate act on the colt's part is very likely to follow. If we must strike the colt with the whip, let us be sure to not restrain it by the lines, but permit it to go forward—fast or slow—as it decides the matter from the effect made on its body. But if we expect a well-behaved colt we must do as little with the whip as possible to get the colt to go.

MUTUAL UNDERSTANDING.

It is equally important that the trainer and the colt are mutual friends and have a perfect understanding like when the teacher of the school and the pupils mutually understand each other for harmony and advancement in their education. But just as soon as it is discovered that this good feeling and friendship is lost is the right time to stop and let someone else try it who knows better how it should be done. Never make the lessons of long duration. Never try to force the colt to do what

it fails to understand, and as soon as weariness is manifest any further work must be postponed until another day. Frequent short lessons are generally enjoyed by the colt, and, if they are given in regular order every day, step by step, the colt soon learns to like both the work and its teacher.

In summing up this whole matter it is unnecessary to say more than this: That if the foregoing instructions are carefully followed the writer has great confidence in the results with both teacher and his pupils.

In reviewing this subject the reader will please bear in mind that the author is not trying to force any special theories upon the public, but only very anxious to relieve the horse of much of his suffering, but, by giving through this medium his experience and observations, intelligence and wonderful memory of the very large majority of our horses, as well as making the horse much more valuable to his owner by education, care and treatment, he hopes to get the reader to looking at this whole matter just as we find it in nature, and not on the basis of punishment.

In recapitulating, the reader's attention is called to the early beginning of the colt's education and the importance of the instructor thoroughly understanding the colt's nature throughout, as well as just how to proceed step by step for a complete education without any danger of failure in making a safe, reliable and trustworthy, mature horse for the duties to which he is best adapted.

The means and methods here referred to are only suggestive to the reader, and if any one has a better and more comprehensive system in conformity with the natural laws of animal life, it should not be held back, but set forth in the interest of men and horses.
of the neck from top to bottom.

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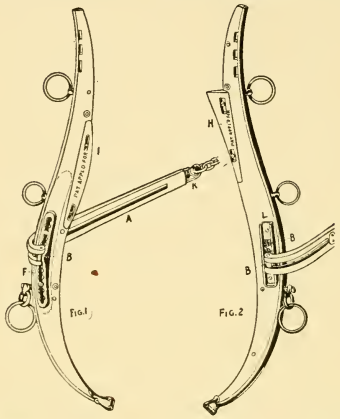

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The principle of raising and lowering the draft on the shoulders is another common sense as well as "Horse Sense" method to meet the difference in horse shoulders and the many kinds of work they have to do. If the collar is too long (as is often the case) the draft can be raised to the required point and the horse is at once relieved from working with too low a draft. If it is too high it can be lowered just as easily.

Our horses do all their heavy harness work from the shoulders, and the best fittings with the least movement on the shoulders (like carrying anything on our shoulders) will greatly relieve the horse from suffering and be a decided benefit to his owner—insuring the work being done with less fretting and chafing, with little prospect of balking when not overloaded and properly driven.

The plates H and I (as seen in both figs. 1 and 2) are made to change the shape of the collar for a better adaptation or fitting of the collar to the neck of the horse. Plate H will change the usually straight hame into a more circular form which will better fit the thick or "stag necked" horse through its central portion, as seen in fig. 2, while the plate I, on the straight hame, will force the collar to the depression in the sides of the thin-necked horse, as seen in fig. 1. These plates fill a long-felt want and will last a life-time, and considering the advantage to the horse which needs neither, their cost is simply trifling.

BENEFITS SUMMED UP.—1st—Better fitting collar. 2d—Saving the expense of sweating-pads. 3d—No wearing of the collar or drawing it out of shape by the hame-tug pulling hard into it. 4th—Direct backward draft instead of the usual rotary pressure on the horse's shoulders, by its extreme outside bearing, as usually done. 5th—Raising or lowering the draft with a range of two inches, at every third of an inch, to accommodate the draft to different shaped shoulders and the work to be done, which can be done easily and quickly. 6th—Saving the irritability of horses from sore necks, painful pressure of the collar on sore shoulders, sweeny and shoulder lameness in many cases, as well as doing much towards insuring true pullers instead of making balkers. 7th—Best of all that these improvements should cost but little more than supplying the same parts (new with good material) to the harness now in use. Address

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